SIEMENS



Application description • 07/2015

Long-term archiving of BATCH data using the Process Historian:

SIMATIC PCS 7 V8.1 SP1

https://support.industry.siemens.com/cs/ww/en/view/66579062

Warranty and Liability

Note

The Application Examples are not binding and do not claim to be complete regarding the configuration, equipment and any eventuality. The Application Examples do not represent customer-specific solutions. They are only intended to provide support for typical applications. You are responsible for ensuring that the described products are used correctly. These Application Examples do not relieve you of the responsibility to use safe practices in application, installation, operation and maintenance. When using these Application Examples, you recognize that we cannot be held liable for any damages/claims beyond the liability clause described. We reserve the right to make changes to these Application Examples at any time without prior notice. If there are any deviations between the recommendations provided in this Application Example and other Siemens publications – e.g. catalogs – the contents of the other documents have priority.

We do not accept any liability for the information contained in this document.

Any claims against us – based on whatever legal reason – resulting from the use of the examples, information, programs, configuring and performance data etc., described in this Application Example shall be excluded. Such an exclusion shall not apply in the case of mandatory liability, e.g. under the German Product Liability Act (“Produkthaftungsgesetz”), in case of intent, gross negligence, or injury to life, body or health, guarantee for the quality of a product, fraudulent concealment of a deficiency or breach of a substantial contractual obligation. Compensation for a breach of a substantial contractual obligation is, however, limited to the foreseeable damage, typical for the type of contract, except in the case of mandatory liability in the event of intent or gross negligence or injury to life, body or health. The above provisions do not imply a change of the burden of proof to your detriment.

Any form of duplication or distribution of these Application Examples or excerpts hereof is prohibited without the express consent of Siemens AG.

© Siemens AG 2015 All rights reserved

Security information

Siemens offers products and solutions with industrial security functions which support the secure operation of plants, solutions, machines, devices and/or networks. They are important components in a holistic industrial security concept. The products and solutions from Siemens undergo continuous development with this in mind. Siemens recommends strongly that you regularly check for product updates.

For the safe operation of products and solutions from Siemens, it is necessary to take suitable protective measures (e.g. cell protection concept) and to integrate each component into an overall industrial security concept which corresponds to state-of-the-art IT technology. Products used from other manufacturers should also be taken into account here. For more information about industrial security, visit http://www.siemens.com/industrialsecurity.

In order to keep yourself informed about product updates, we recommend subscribing to our product-specific newsletter. For further information, visit http://support.industry.siemens.com.

Preface

Objectives

This document supplements the document “Installation and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment”. It describes the additional steps necessary for cyclic archiving of batch data and generating reports on the Information Server. It also explains the commissioning procedure for PH and IS.

Key contents

The following topics will be discussed in detail:

- Installation requirements
- Installation of the Operator Station and BATCH Station
- Installation of the Process Historian and Information Server
- Commissioning of the system after installation
- Some scenarios and instructions for checking

Scope

The instructions were generated using:

- SIMATIC PCS 7 V8.1 SP1
- Process Historian 2014 SP1
- Information Server 2014 SP1

Primarily for use with:

- SIMATIC PCS 7 V8.1 with SIMATIC BATCH V8.1 SP1
- Process Historian 2014
- Information Server 2014

© Siemens AG 2015 All rights reserved

Table of contents

Warranty and Liability **2**

1 Introduction **5**

1.1 Hardware selection 5
1.2 Segmentation 5
1.3 Defining the hard disk capacity 6
1.4 General installation notes 6

2 Installing the Operator Station **7**

2.1 Installation procedure for the OS Server 7
2.2 Installation procedure for the OS Single Station 7

3 Installing the BATCH PC Stations **8**

3.1 Installation requirements for SIMATIC BATCH Server 8
3.2 Installation procedure for SIMATIC BATCH Server 9
3.3 Installation requirements for SIMATIC BATCH Single Station 15
3.4 Installation procedure for SIMATIC BATCH Single Station 16

4 Installation of Process Historian and Information Server **17**

5 PH database configuration **18**

6 Settings in the Batch Control Center **19**

7 Commissioning **21**

8 Batch Reports **23**

8.1 BATCH Control Center 23
8.2 IS Client 26

9 Administration of archived batch data **31**

10 References **32**

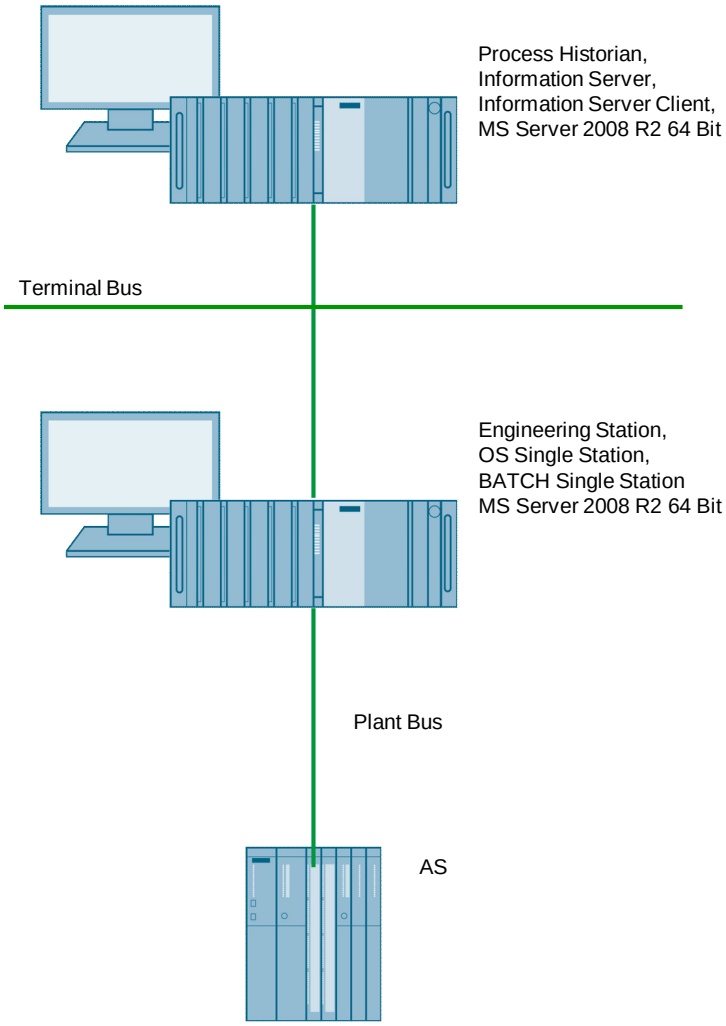
11 History **32**

© Siemens AG 2015 All rights reserved

1 Introduction

This document is based on the following PCS 7 structure:

Figure 1–1



© Siemens AG 2015 All rights reserved

1.1 Hardware selection

Information about suitable hardware is included in the Application Example “Installation and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment” in Section 1.1 (\3\).

1.2 Segmentation

Information about segmentation is included in the Application Example “Installation and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment” in Section 1.2 (\3\).

1.3 Defining the hard disk capacity

Information about defining the hard disk capacity is included in the Application Example “Installation and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment” in Section 1.3 (\3\).

1.4 General installation notes

General installation notes for the PH/IS software are included in the Application Example “Installation and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment” in Section 1.4 (\3\).

© Siemens AG 2015 All rights reserved

2 Installing the Operator Station

The installation and relevant requirements are described in Section 2 of the Application Example “Installation and Commissioning of Process Historian/Information Server in the PCS 7 Environment” (/3/).

Differences and further notes on the procedure described in the above-mentioned Application Example will be described below.

2.1 Installation procedure for the OS Server

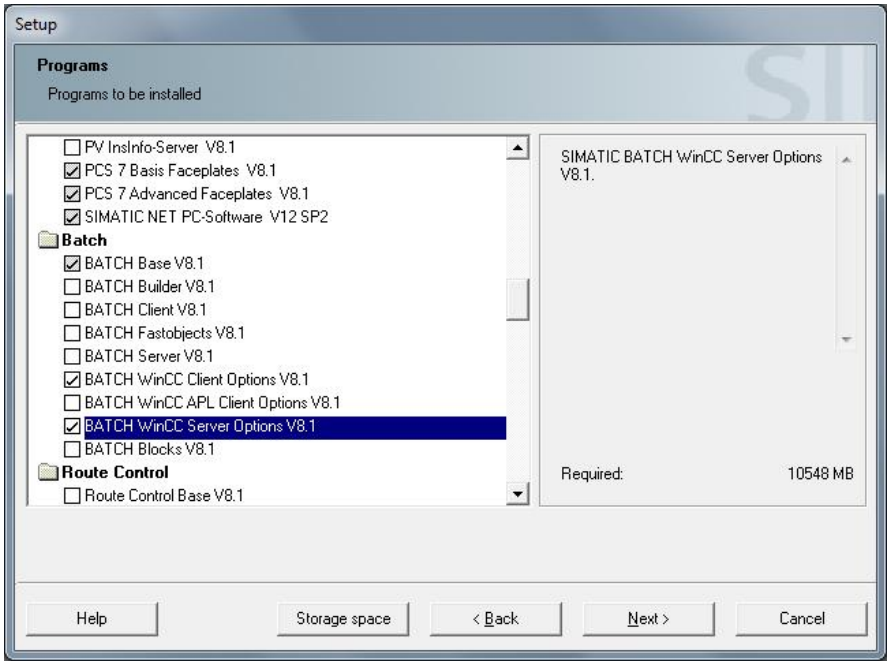
In addition to the software package “OS Server for Process Historian”, the software package “OS Server for BATCH” must also be installed. The installation can be carried out in the same installation procedure (see figure 2–1).

Note If you are running the OS Server and the BATCH Server on the same PC, you must additionally select the software package “BATCH Server”.

2.2 Installation procedure for the OS Single Station

In addition to the software package “OS Single Station for Process Historian”, the programs “BATCH WinCC APL Client Options V8.1 (SP1)” and “BATCH WinCC Server Options V8.1 (SP1)” must also be installed. The installation can be carried out in the same installation procedure.

Figure 2–1



Note If you are running the OS Single Station and a BATCH Single Station on the same PC, you must additionally select the software package “BATCH Single Station”.

© Siemens AG 2015 All rights reserved

3 Installing the BATCH PC Stations

Note The requirements for installing a BATCH Server or a BATCH Single Station must be met.

NOTICE

The computer SID is a unique security identifier. The Process Historian identifies the BATCH systems from their computer SID. Computers that have the same computer SID and swap data onto the PH cannot be clearly identified by the PH. This may cause malfunctions on the PH.

If computers are cloned, the computer SID is not adjusted automatically.

In the PCS 7 environment, unique computer SIDs are a requirement for error-free functionality.

Note The following description was carried out using the PCS 7 V8.1 DVD. If you carry out the installation using PCS 7 V8.1 SP1, you will not need to install SP1 for SIMATIC BATCH V8.1.

Below you can find a description of the installation steps for the PC Stations on which the SIMATIC BATCH components are run.

3.1 Installation requirements for SIMATIC BATCH Server

Check whether the installation requirements listed in the “PC Configuration” and “PCS 7 Readme V8.1 (Online)” manuals are met.

You should also note the Readme for SIMATIC BATCH. This is located on the product DVD in the path “<DVD Drive>:\DVD_1\60_SB_V8.1\SBBASEEU\setup\sb-readme.mht”.

Released operating systems

The SIMATIC BATCH Server can be installed on different systems. Suitable Microsoft operating systems are listed in the following table:

Table 3–1

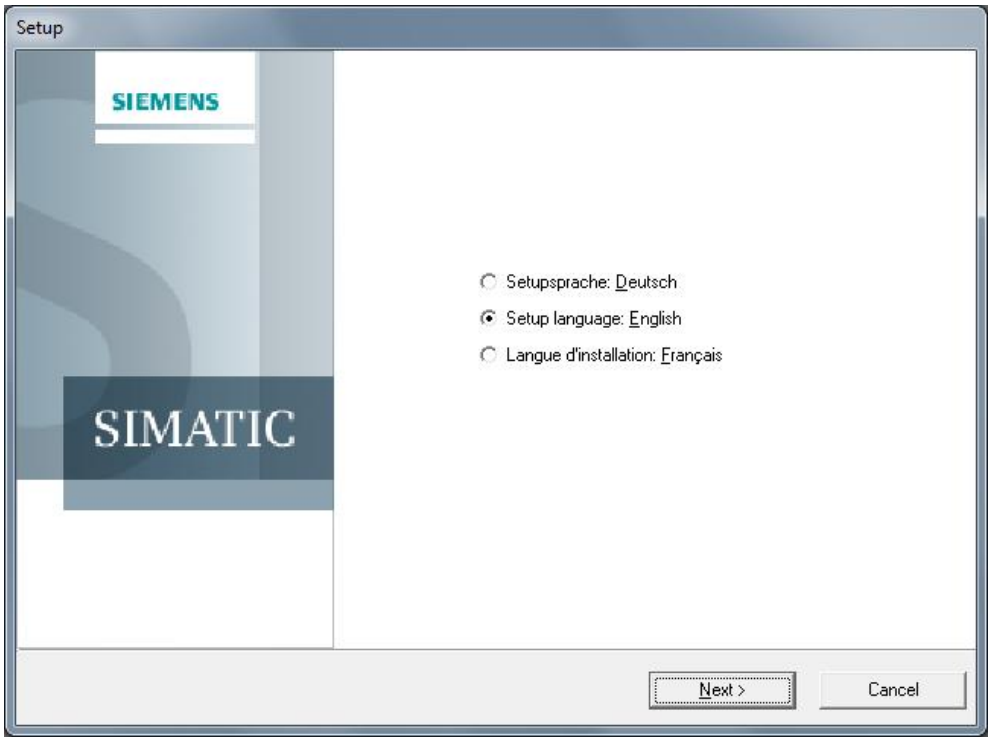
Operating system	Configuration	Remarks
Windows 7	Ultimate SP1 Enterprise SP1	32-bit (not released for SIMATIC BATCH Server) 64-bit
Windows Server 2008 R2 SP1	Standard Enterprise	64-bit

© Siemens AG 2015 All rights reserved

3.2 Installation procedure for SIMATIC BATCH Server

1. Insert the PCS 7 DVD 1 into your DVD drive.
2. The PCS 7 setup starts automatically. You can also start the installation directly from the PCS 7 DVD 1 by double-clicking on the “Setup” application. The setup file is located in the root directory of the DVD. The name of the setup program is “PCS 7 Frame Setup”. It allows all PCS 7 components to be selected.
3. Select the desired setup language. Click the “Next >” button.

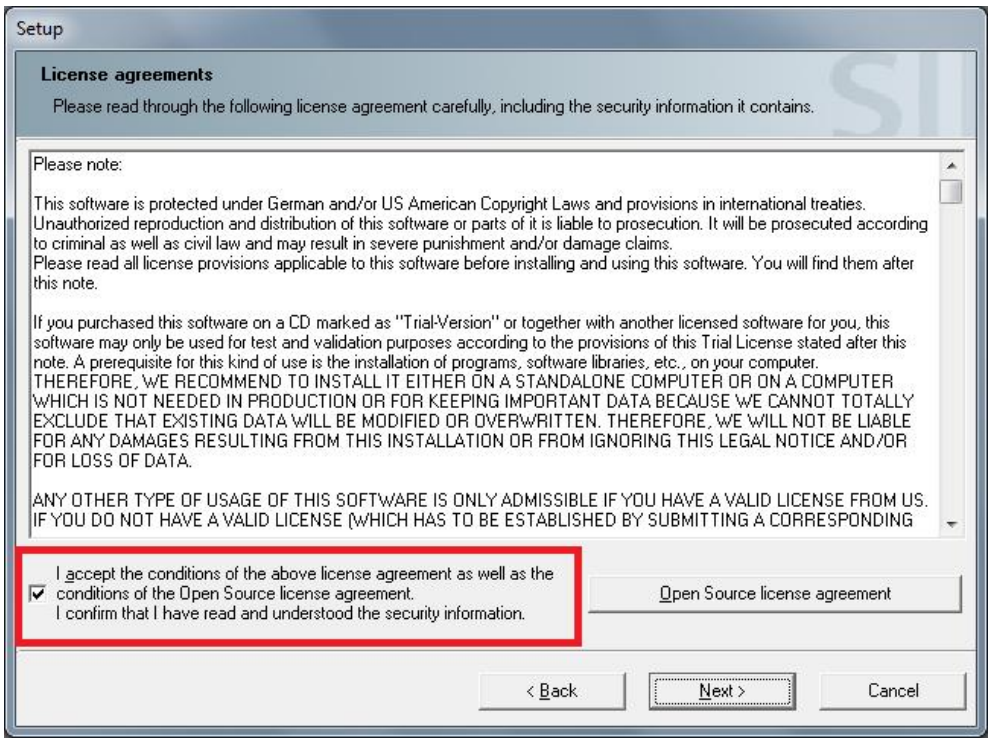
Figure 3–1



4. In the “Welcome” window, click the “Next >” button.
5. Read the product notes and then click “Next >”.
6. Agree to the setup conditions and then click the “Next >” button.

© Siemens AG 2015 All rights reserved

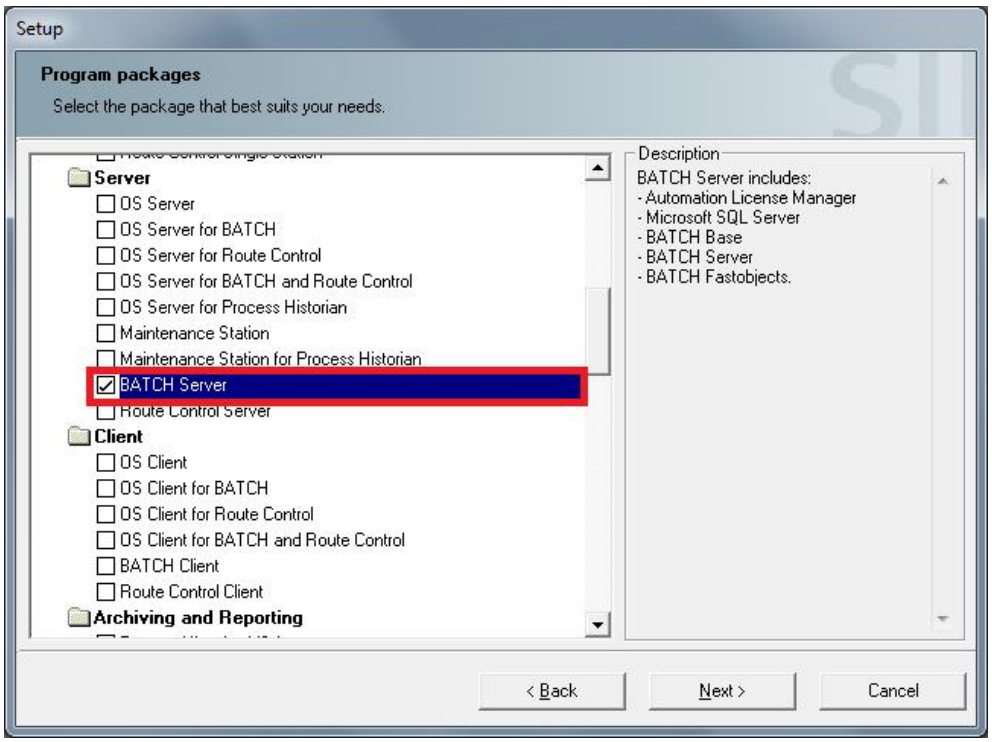
Figure 3–2



7. Select the “Install” setup type if you want to install the BATCH Server from scratch. Then click the “Next >” button.
8. Enter the user name and organization name. Then click the “Next >” button.
9. Select “Package installation”. Click the “Next >” button.
10. Select the “BATCH Server” software package. Click the “Next >” button.

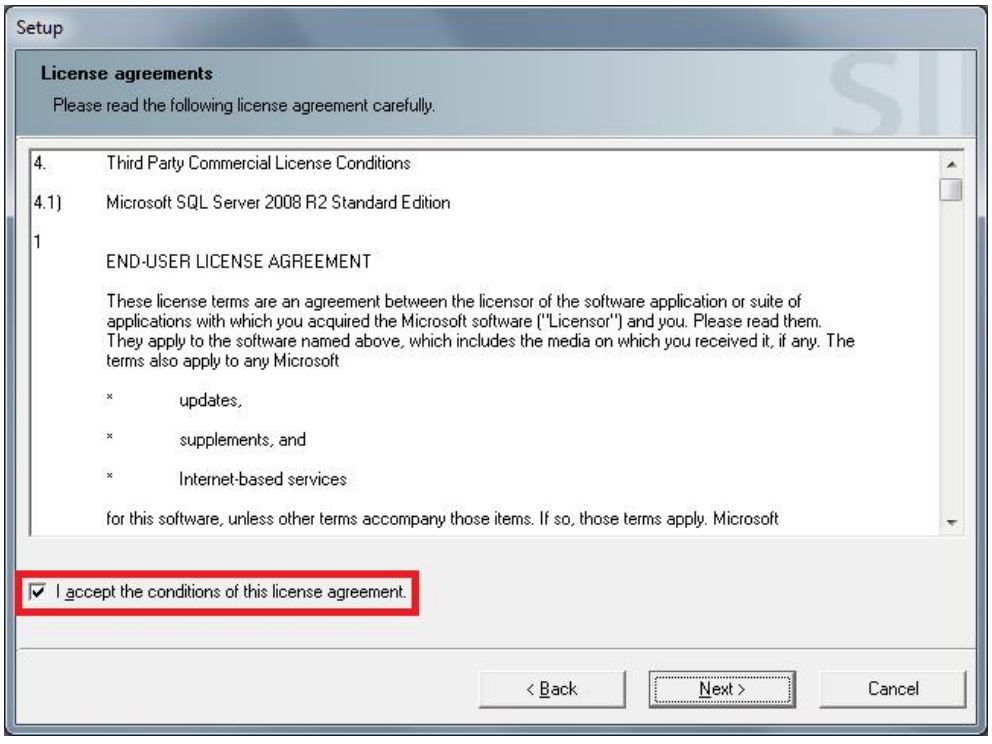
© Siemens AG 2015 All rights reserved

Figure 3–3



11. Click the “Next >” button.
12. Agree to the license agreement and then click the “Next >” button

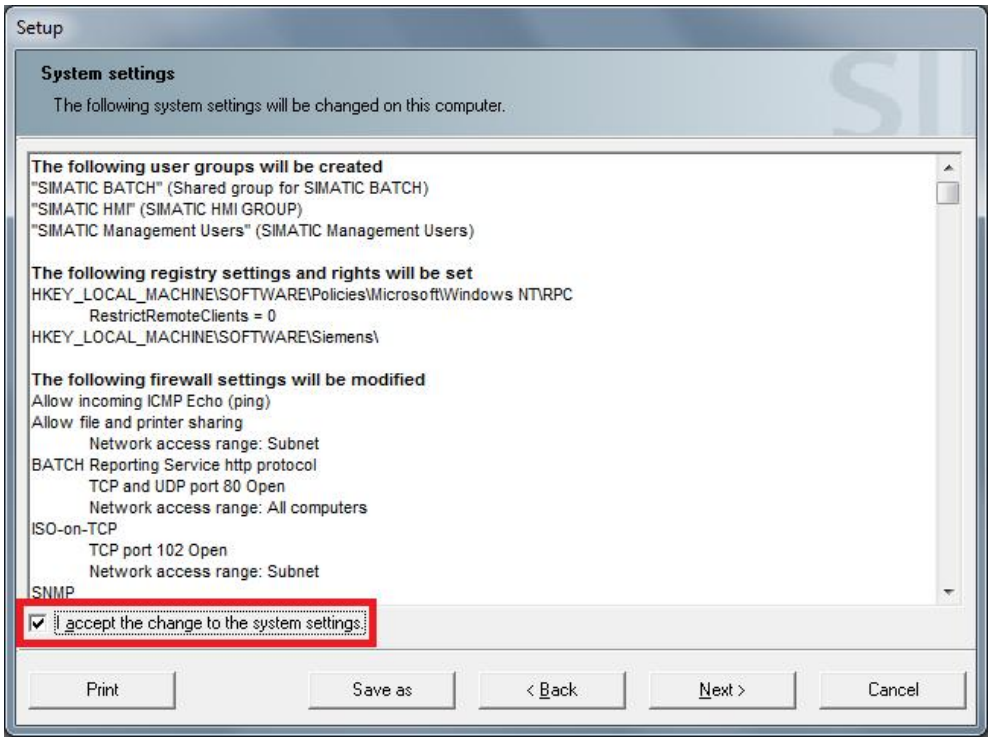
Figure 3–4



© Siemens AG 2015 All rights reserved

13. Confirm the system settings and click the “Next >” button.

Figure 3–5

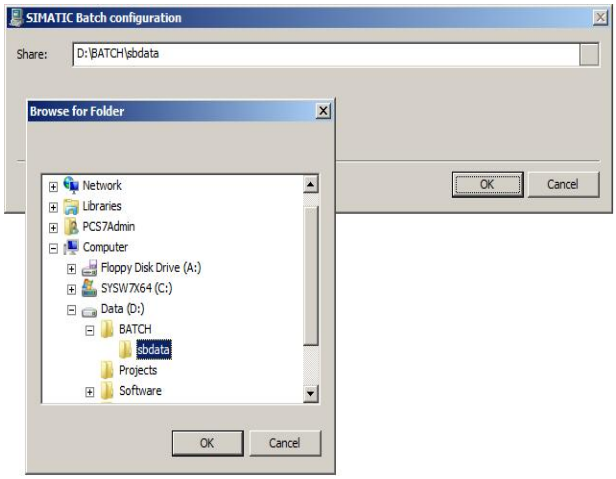


14. Click the “Install” button.

Note During installation, you will need to swap the PCS 7 DVD and the computer will need to be restarted.

15. At the end of the installation, enter the path where the SIMATIC BATCH data is to be stored (shared folder “sbdata”).

Figure 3–6



© Siemens AG 2015 All rights reserved

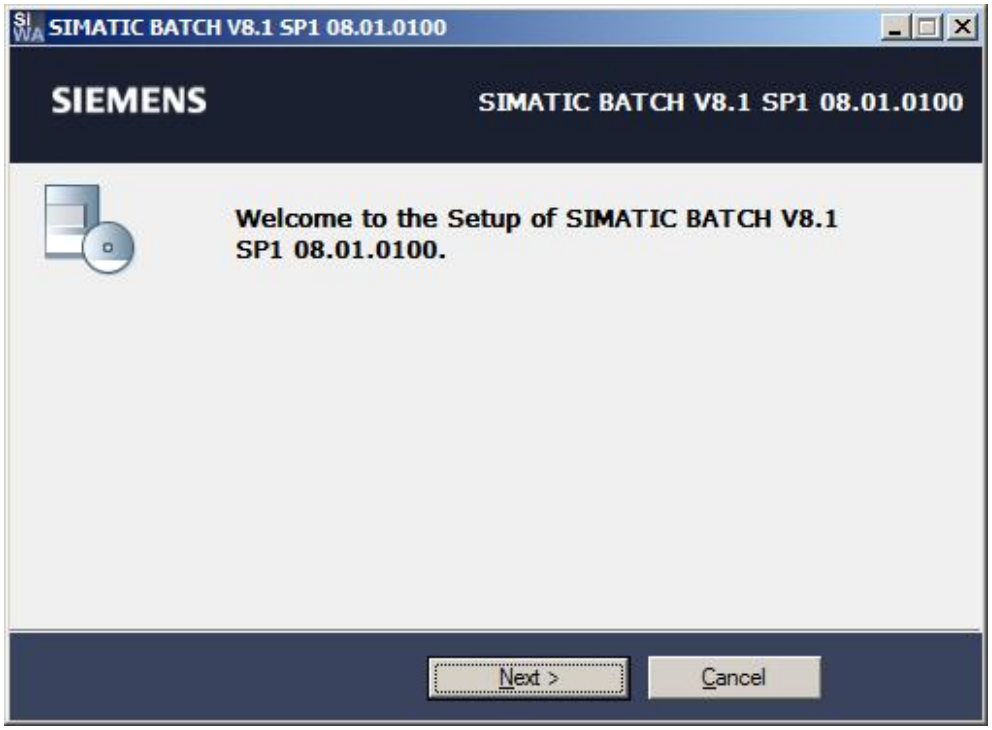
Note For reasons of performance, we recommend storing the data on an additional physical hard disk (SSD).

16. Wait until the installation is complete.
17. Restart the computer.

Note The following steps are only necessary if you have installed SIMATIC BATCH V8.1 from the PCS 7 DVD V8.1. If you use the PCS 7 DVD V8.1 SP1, Service Pack 1 for SIMATIC BATCH is automatically installed.

18. Start the installation of Service Pack 1 for SIMATIC BATCH V8.1 by running the file “SEBU_SB_V81_SP1_EU.exe”.
19. In the “Welcome” window, click the “Next >” button.

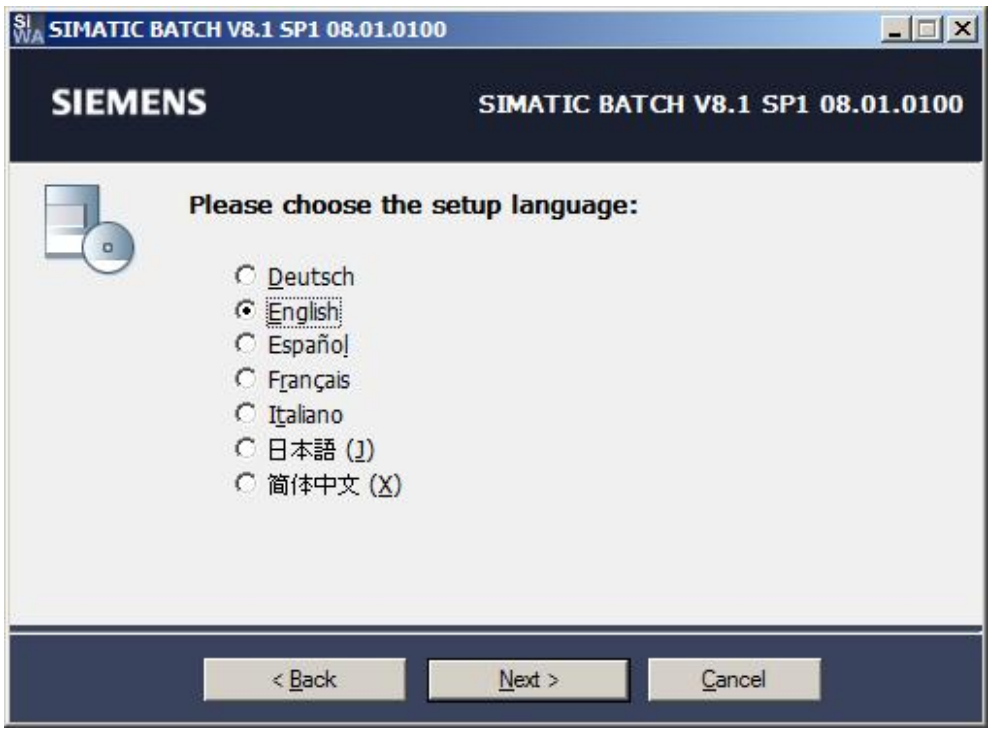
Figure 3–7



20. Select your preferred setup language and then click “Next >”.

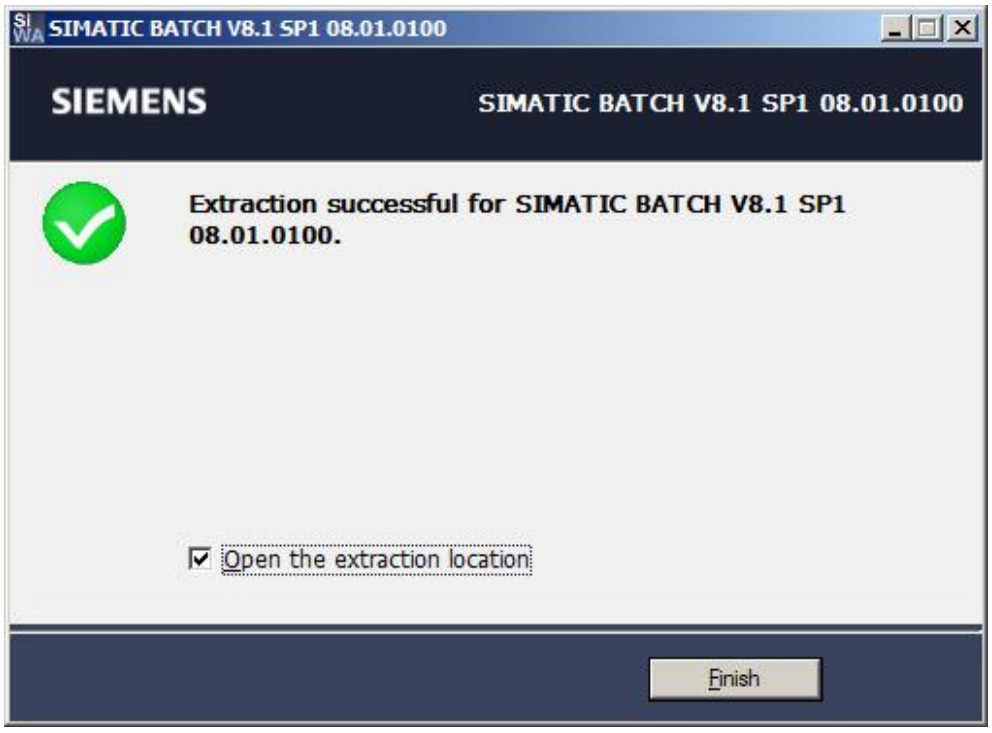
© Siemens AG 2015 All rights reserved

Figure 3–8



21. Specify the path for where the installation files for the Service Pack should be unpacked. Then click the “Next >” button.
22. After unpacking the data, select the option “Open extraction location”. Then click on the “Finish” button.

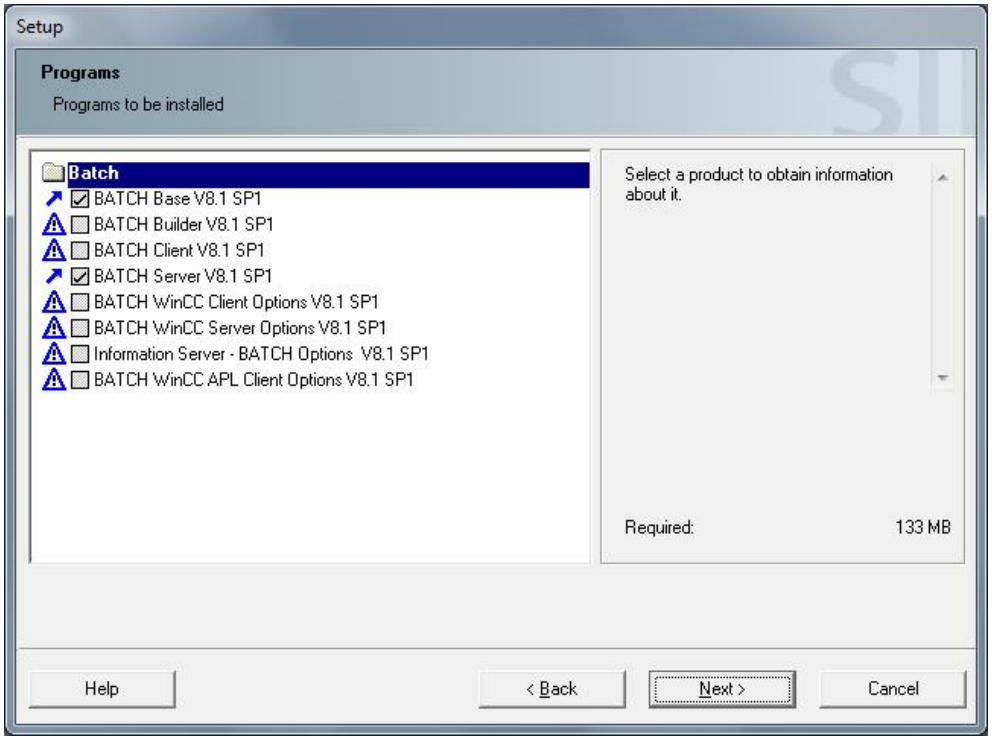
Figure 3–9



© Siemens AG 2015 All rights reserved

23. In the extraction location, double-click on the “Setup.exe” application.
24. Select the desired setup language. Then click the “Next >” button.
25. In the “Welcome” window, click the “Next >” button.
26. Accept the license agreements, then click the “Next >” button.
27. Select setup type “Install”, then click the “Next >” button.
28. In the “Programs” window, check whether all the necessary programs have been selected, then click the “Next >” button.

Figure 3–10



29. Confirm the system settings, then click on “Next >”.
30. Click the “Install” button.
31. Wait until the installation is complete.
32. Restart the computer.

3.3 Installation requirements for SIMATIC BATCH Single Station

Check whether the installation requirements listed in the “PC Configuration” and “PCS 7 Readme V8.1 (Online)” manuals are met.

You should also note the Readme for SIMATIC BATCH. This is located on the product DVD in the path “<DVD Drive>:\DVD_1\60_SB_V8.1\SBBASEEU\setup\sb-readme.mht”.

© Siemens AG 2015 All rights reserved

Released operating systems

The SIMATIC BATCH Single Station can be installed on different systems. Suitable Microsoft operating systems are listed in the following table:

Table 3–2

Operating system	Configuration	Remarks
Windows 7	Ultimate SP1 Enterprise SP1	32-bit (not released for SIMATIC BATCH Server) 64-bit
Windows Server 2008 R2 SP1	Standard Enterprise	64-bit

3.4 Installation procedure for SIMATIC BATCH Single Station

The installation procedure for the SIMATIC BATCH Single Station corresponds to the installation procedure for the SIMATIC BATCH Server.

Select the “BATCH Single Station” software package instead of the “BATCH Server” software package.

© Siemens AG 2015 All rights reserved

4 Installation of Process Historian and Information Server

The installation and relevant requirements are described in Section 3.8 of the Application Example “Installation and Commissioning of Process Historian/Information Server in the PCS 7 Environment” (/3/).

Differences and further notes on the procedure described in the above-mentioned Application Example will be described below.

Information Server – BATCH Options

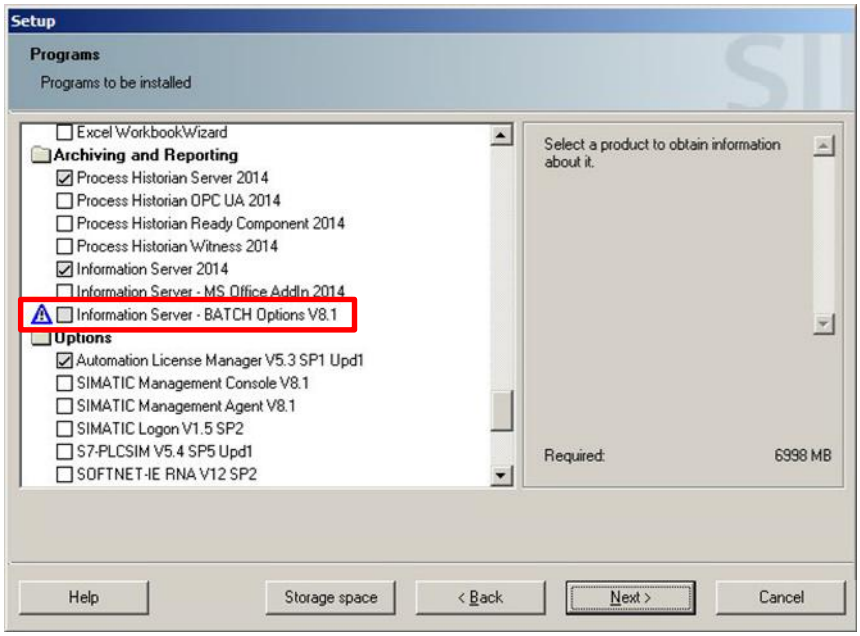
“Information Server – BATCH Options” is required to create batch reports. Installation is only possible if Information Server is installed.

To ensure that the BATCH report templates are available following installation, please observe the following:

- First, link the BATCH project as a data source in the administrator area of the IS website.
- Then install IS BATCH Options.

For information about linking the BATCH project, refer to chapter 7 “Commissioning”.

Figure 4–1



© Siemens AG 2015 All rights reserved

5 PH database configuration

The database installation wizard starts once the Process Historian is installed and the system has been restarted.

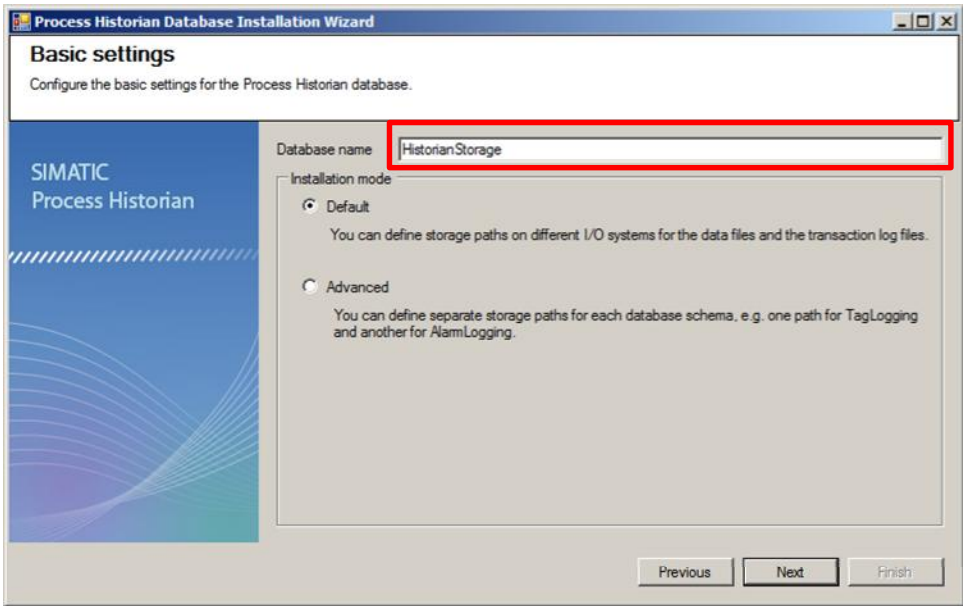
The essential configuration procedure is described in the Application Example “Installation and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment” (\3\).

Below are some notes that are relevant for use with SIMATIC BATCH.

Database name

To ensure smooth operation, do not change the name of the database (“HistorianStorage”).

Figure 5–1



© Siemens AG 2015 All rights reserved

6 Settings in the Batch Control Center

Requirements

Settings performed in the BATCH Control Center (BCC for short) are subject to the following requirements:

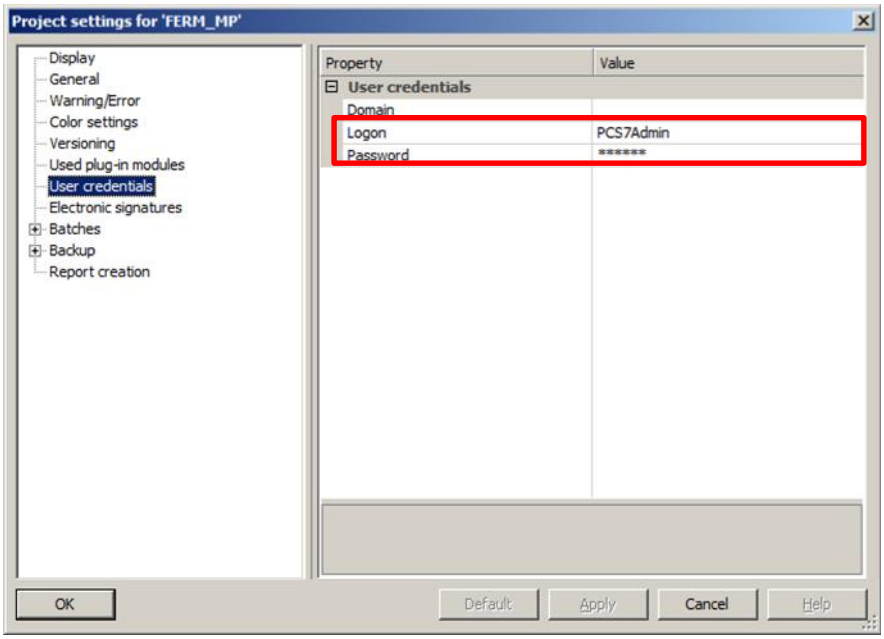
- The PH is configured in PCS 7 Multiproject and all settings have been carried out (see Application Example “Installation and Commissioning of Process Historian/Information Server in the PCS 7 Environment", Section 3.14 \3\).
- The BATCH data are generated and loaded
- The BATCH Server is started
- The user logged in to the BCC has the appropriate authorizations
- The “Process Historian Archive-Batch” license is available on the PH.

Procedure

1. Open the BCC.
2. Enter the user name and password in the login window.
3. In the menu bar, click on “Options > Settings > Project Settings”.
4. Select “User credentials” and type in the user name and password for a PH user.

Note The user entered must have write access to the PH database. We recommend specifying the same user for whom the PH has been installed.

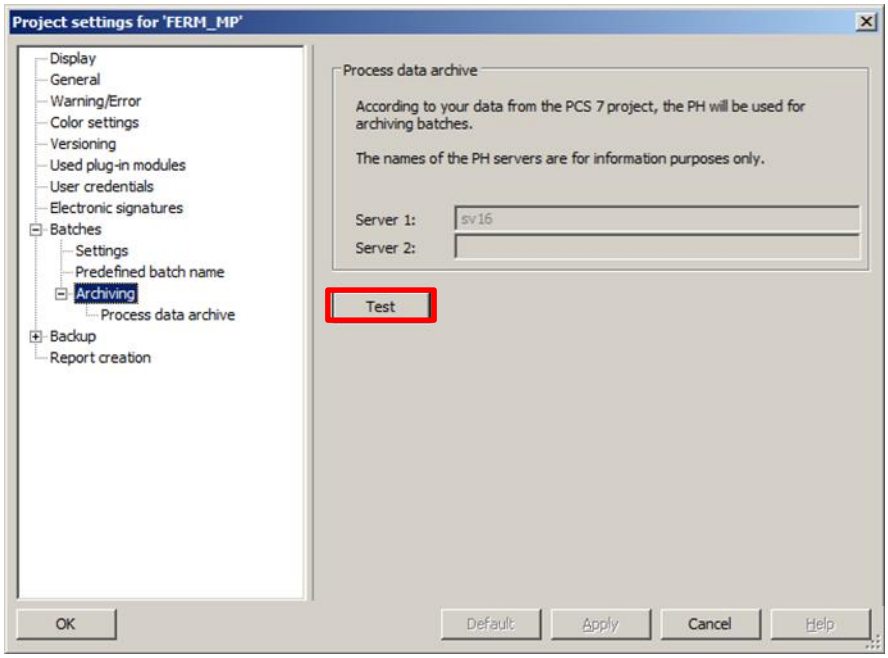
Figure 6–1



5. Switch to the setting “Batches > Archiving”.
6. Click on the “Test” button, then on “OK”.

© Siemens AG 2015 All rights reserved

Figure 6–2



Note From SIMATIC BATCH V8.1 SP1 onward, the name of the PC on which the PH is installed is automatically entered in the “Server 1” field when a PH is configured in multiproject. An alternative archiving method is then not possible.

Note The “Test” button will only function if there is a “Process Historian Archive-Batch” license on the PH.

© Siemens AG 2015 All rights reserved

7 Commissioning

The commissioning of the PC stations is described in Section 4 of the Application Example “Installation and Commissioning of Process Historian/Information Server in the PCS 7 Environment” (/3/).

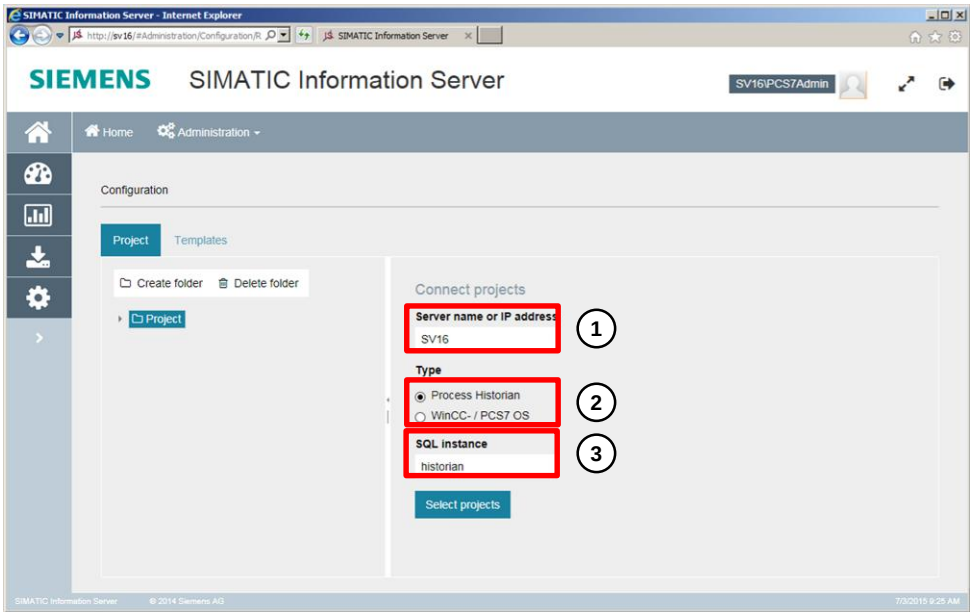
Differences and further notes on the procedure described in the above-mentioned Application Example will be described below.

Linking BATCH project as a source (IS)

The procedure corresponds to the description of linking the OS project in the Application Example “Installation and Commissioning of Process Historian/Information Server in the PCS 7 Environment”.

1. Open the “Configuration” page in the IS.
2. Enter the server name for the PH or the IP address of the PH (1).
3. Select “Process Historian” as the type (3).
4. Select “Historian” as SQL instance, then click the “Select projects” button.

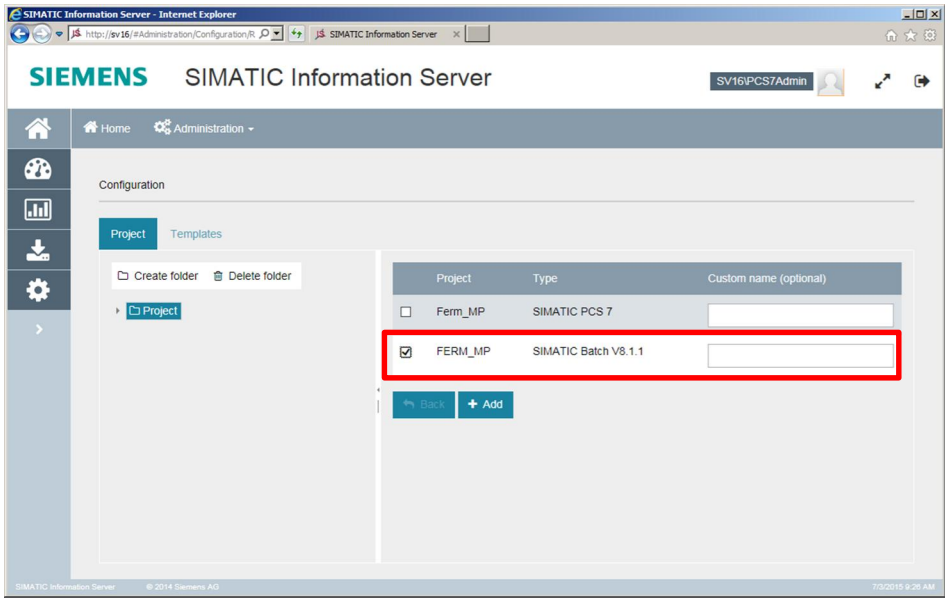
Figure 7–1



5. Select the BATCH project. Then click on the “Add” button.

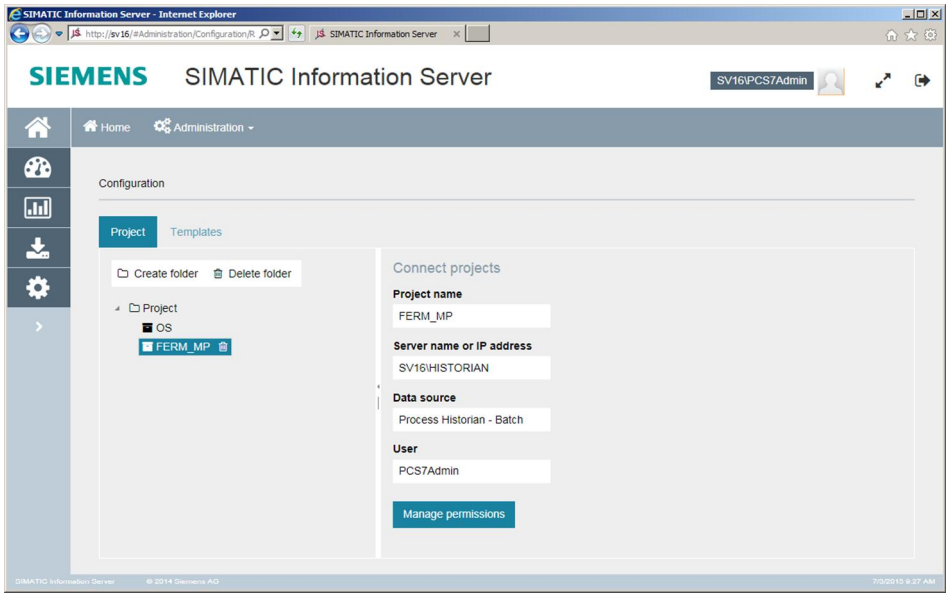
© Siemens AG 2015 All rights reserved

Figure 7–2



6. The BATCH project is now linked in the IS as a data source.

Figure 7–3



7. Now install the “Information Server - BATCH Options” as described in Section 4.

© Siemens AG 2015 All rights reserved

8 Batch Reports

The following procedure describes how to generate BATCH reports.

There is a distinction between generating them in the BCC and generating them on the IS Client.

The following requirements must be fulfilled for generation:

- The BATCH project is linked in the IS as a data source
- “Information Server – BATCH Options” is installed

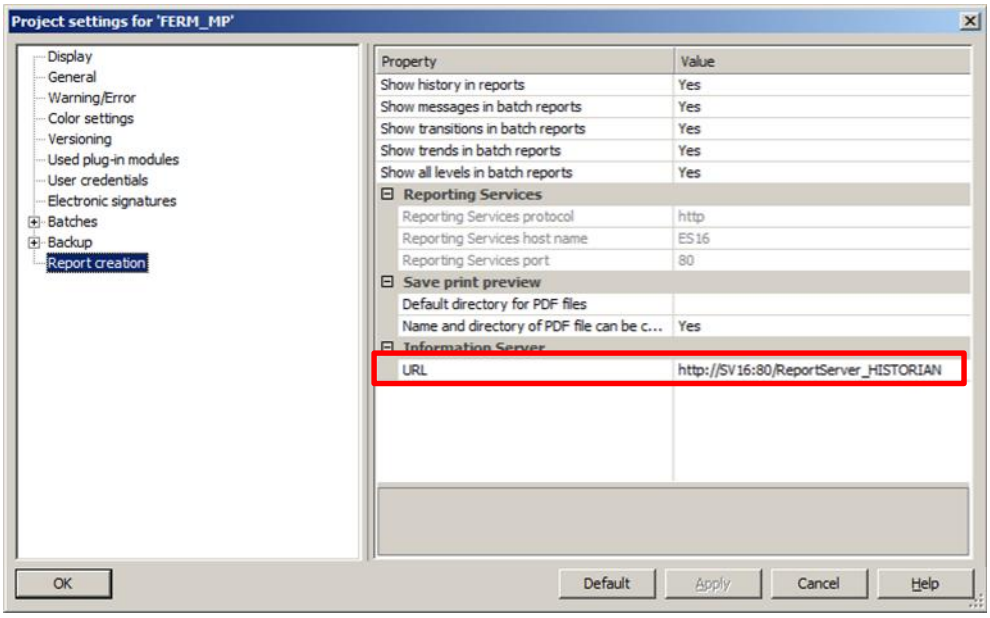
8.1 BATCH Control Center

Note Printing reports or generating print preview of reports on the BATCH client is only possible if PH and IS are installed together on the same PC. If PH and IS are installed on separate PCs, reports can only be generated at the IS client.

Settings

So that reports can be generated from the BCC, the URL of the report server must be specified. This is entered in the project settings under “Report Creation”.

Figure 8–1

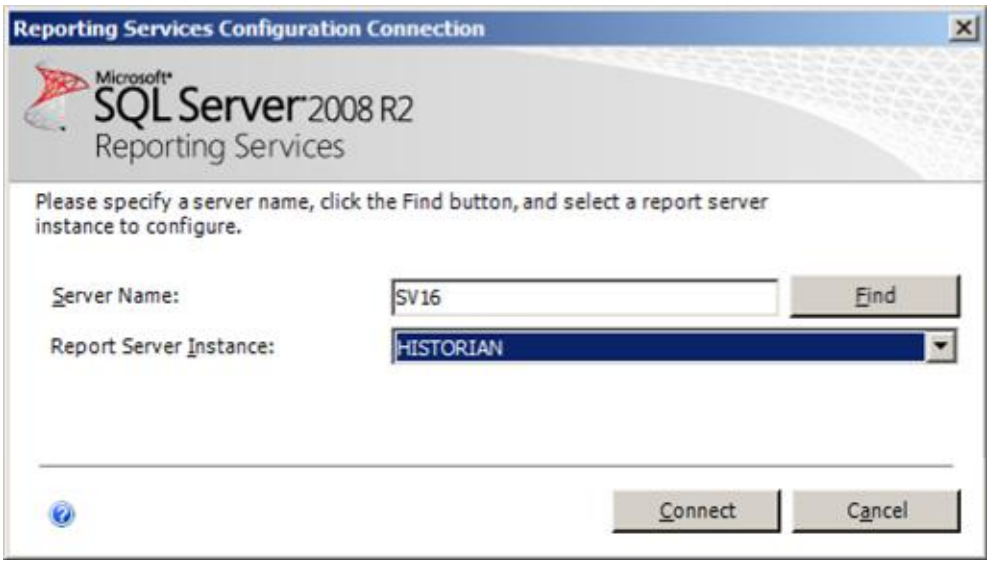


You can obtain the URL for the report server as follows:

1. Open the “Reporting Services Configuration Manager” on the IS via “Start > All Programs > Microsoft SQL Server 2008 R2 > Configuration Tools > Reporting Services Configuration Manager”.
2. In the “Reporting Services Configuration Connection” window, click on the “Connect” button.

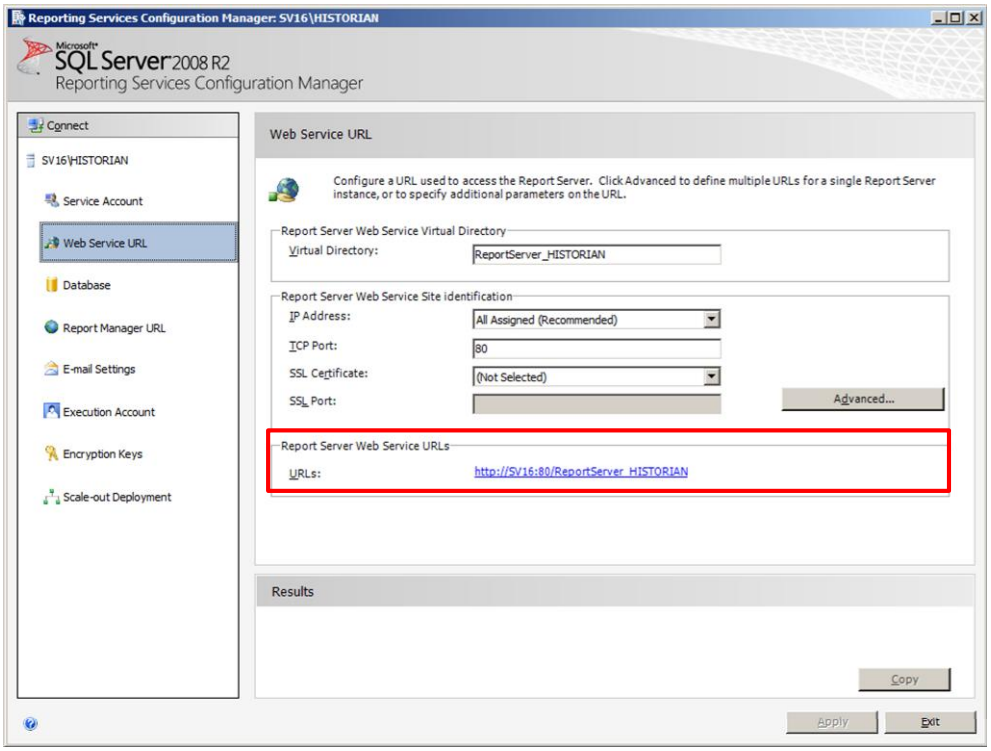
© Siemens AG 2015 All rights reserved

Figure 8–2



3. Select “Web Service URL” and note/copy the “Report Server Web Service URL”.

Figure 8–3

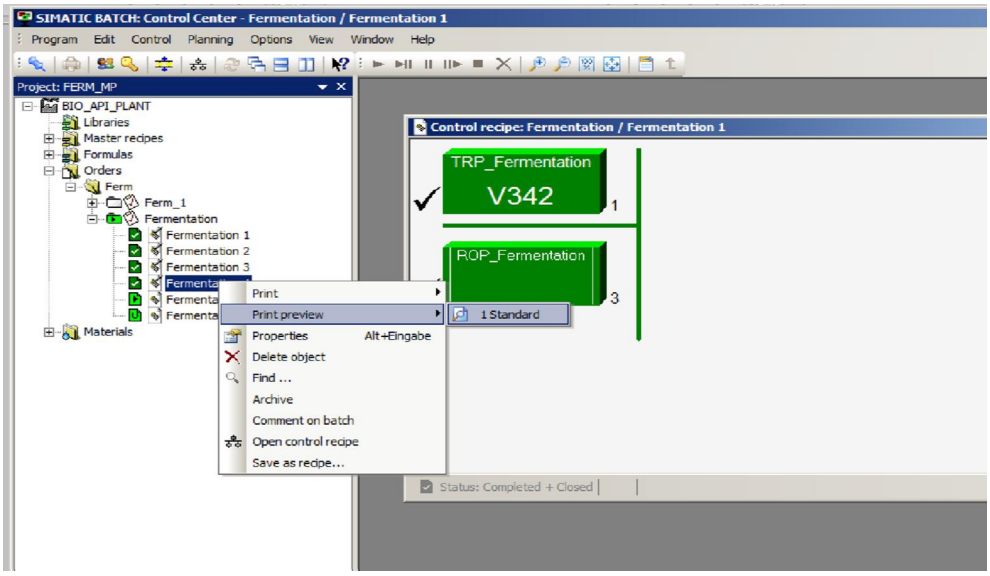


© Siemens AG 2015 All rights reserved

Procedure

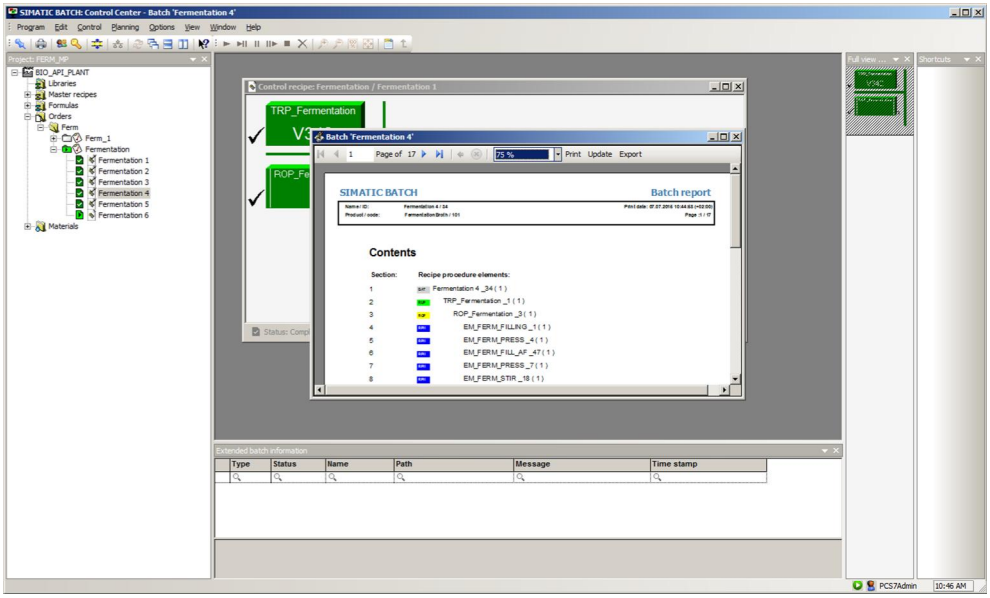
1. In the BCC, right-click on the batch for which a report is to be created.
2. Select “Print Preview” or “Print”.
3. Select the report template.

Figure 8–4



4. The report is created.

Figure 8–5



© Siemens AG 2015 All rights reserved

8.2 IS Client

The procedure for generating BATCH reports is as follows:

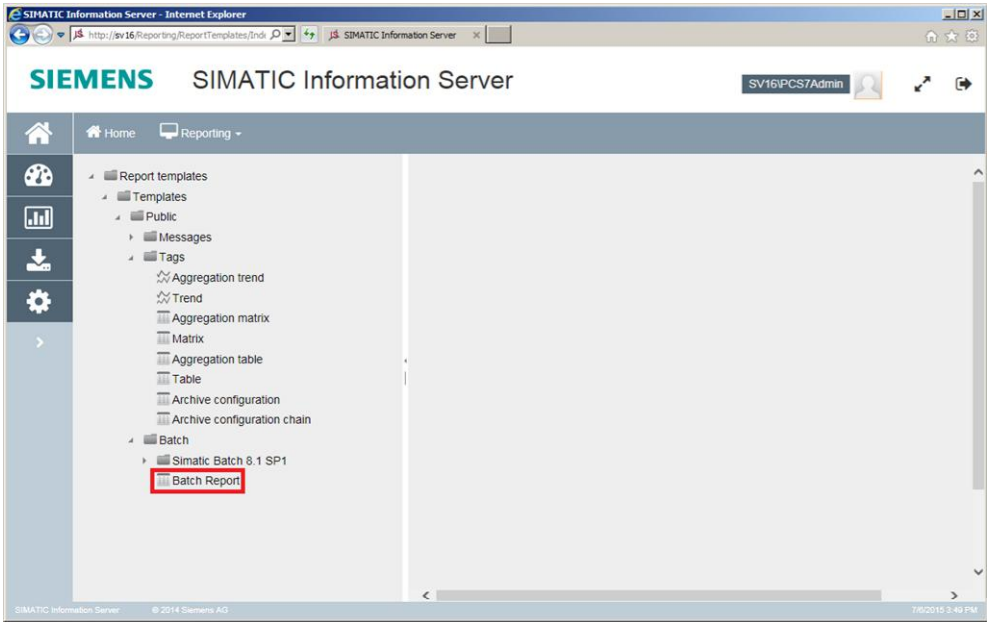
5. Go to the “Home” page on the IS Client and click “Reporting”.

Figure 8–6



6. Click “BATCH report”.

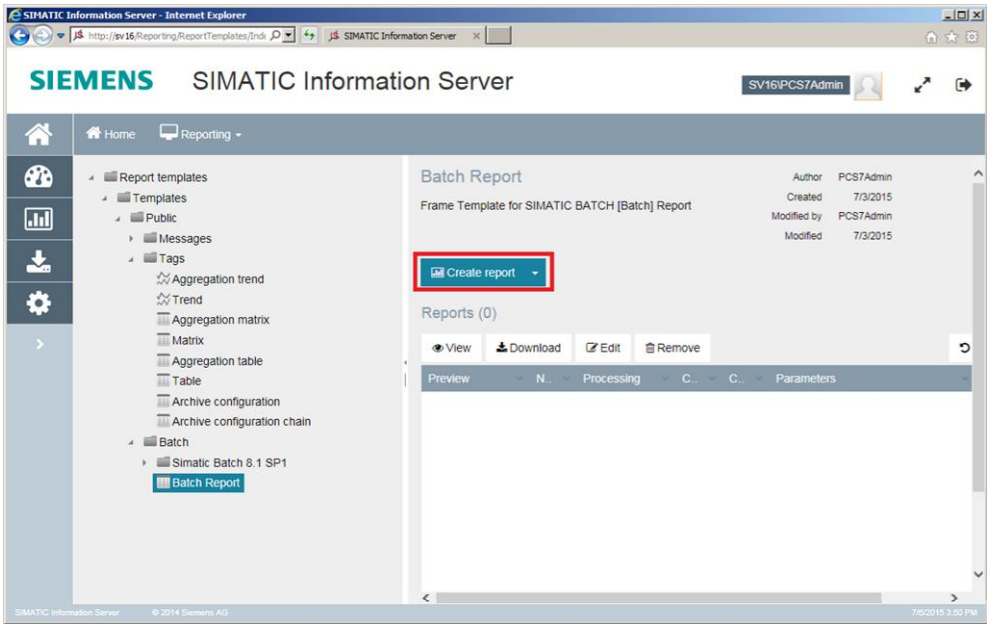
Figure 8–7



© Siemens AG 2015 All rights reserved

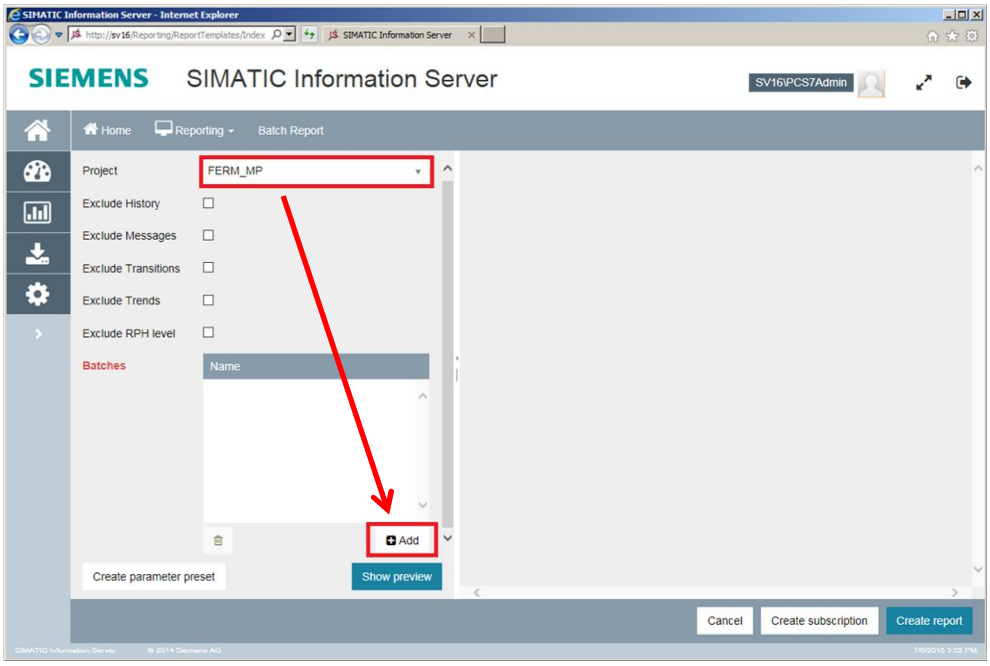
7. Click “Create report”.

Figure 8–8



8. Select the BATCH project, then click “Add”.

Figure 8–9

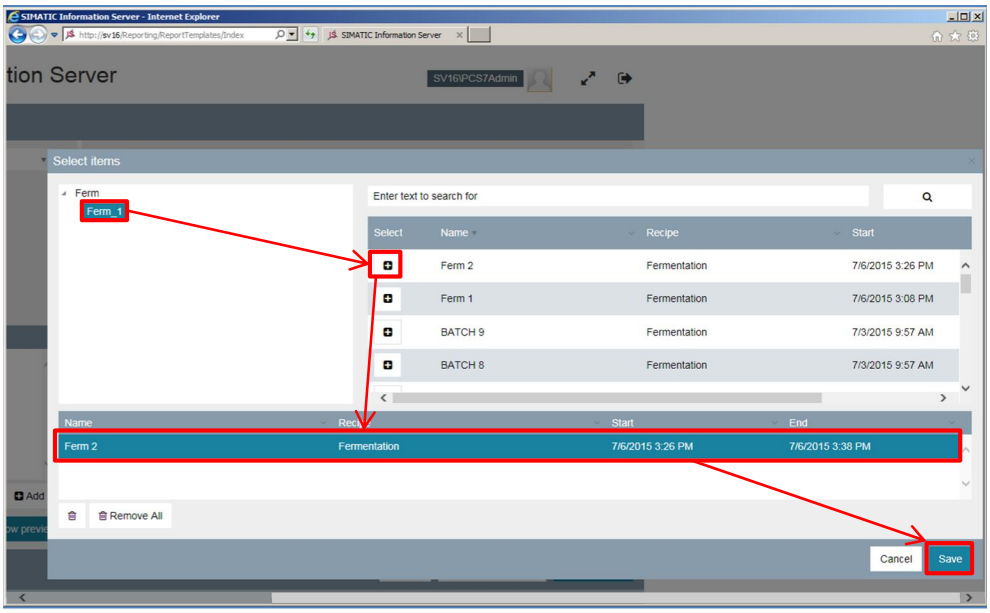


© Siemens AG 2015 All rights reserved

9. Click the batch from the order for which the report is to be generated, then click on the “+” icon next to the batch.

10. Select the batch in the bottom part of the screen, then click on “Save”.

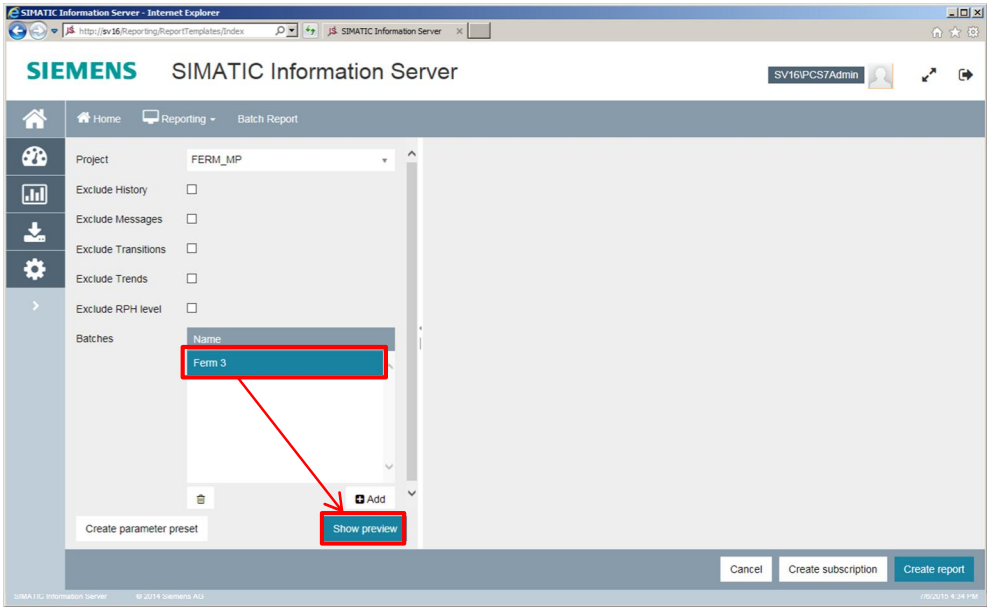
Figure 8-10



© Siemens AG 2015 All rights reserved

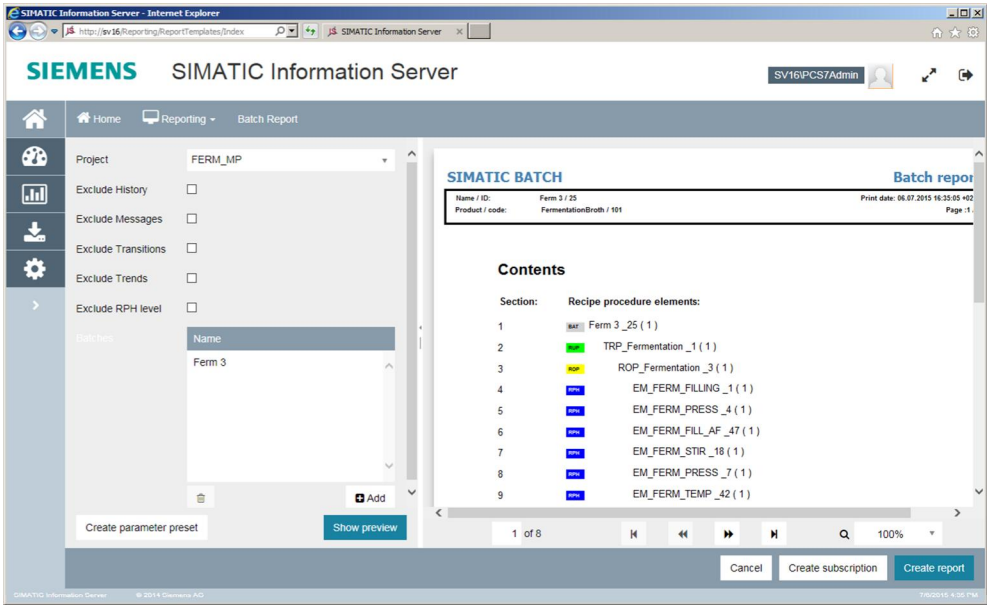
11. In the BATCH Report menu, select the previously selected batch, then click on the “Show preview” button.

Figure 8-11



The print preview for the report will be displayed.

Figure 8-12

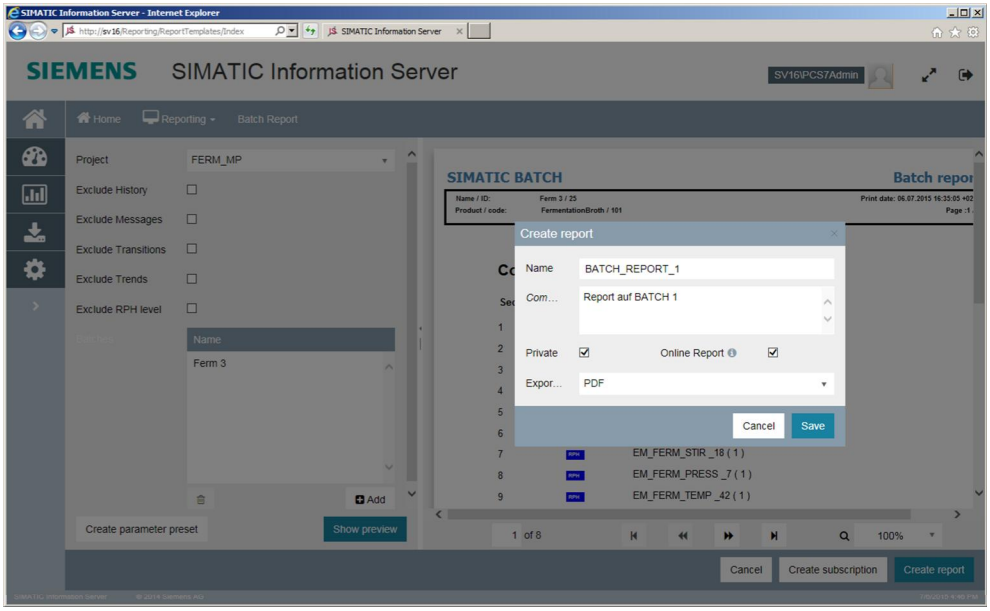


© Siemens AG 2015 All rights reserved

12. Click the “Create Report” button.

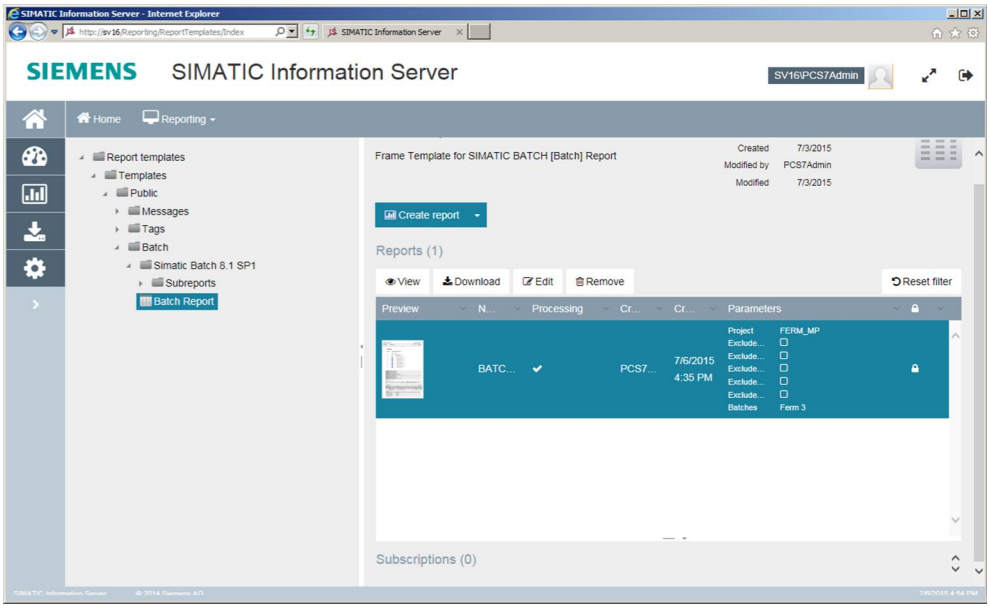
13. In the “Create Report” window, enter the file format and name of the report, then click on “Save”.

Figure 8-13



14. The report is now generated and can be downloaded using the “Download” button.

Figure 8-14



© Siemens AG 2015 All rights reserved

9 Administration of archived batch data

The batch data is administered from the SIMATIC Batch Backup/Restore dashboard. All batch data swapped by the SIMATIC Batch Server are archived separately on the PH. To prevent this archive from becoming too large, we recommend creating a backup of the batch data and then deleting it from the PH.

If necessary, these data can be linked again in the PH.

A detailed description of backing up and restoring batch data is included in the manual “Process Historian 2014 SP1: Administration” in Section 3.12 “SIMATIC Batch Backup/Restore dashboard” (\5\).

Note The SIMATIC Batch Backup/Restore dashboard and associated functions are only available from Process Historian 2014 SP1 onward.

© Siemens AG 2015 All rights reserved

10 References

Table 10–1

	Subject area	Title
\1\	Siemens Industry Online Support	http://support.industry.siemens.com
\2\	Article download page	https://support.industry.siemens.com/cs/ww/en/view/66579062
\3\	Further documentation about the article: • Installation and Commissioning of Process Historian/Information Server in the PCS 7 Environment • Integration of Process Historian/Information Server in a Domain • Configuring Access Protection for a Process Historian Database • Moving a Process Historian/Information Server from Workgroup A to Workgroup B (English only) • PCS 7 Archive Configuration for Long-Term Reports with the Process Historian/Information Server 2013 • Setup a new Process Historian with an existing Historian Storage Database	https://support.industry.siemens.com/cs/ww/en/view/66579062
\4\	Process Historian 2014: Administration	https://support.industry.siemens.com/cs/ww/en/view/103185948
\5\	Process Historian 2014 SP1: Administration	https://support.industry.siemens.com/cs/ww/en/view/109475338
\6\	Information Server 2014 Operating instructions	https://support.industry.siemens.com/cs/ww/en/view/68099543
\7\	Process Historian 2014 SP1 OPC UA Information model	https://support.industry.siemens.com/cs/ww/en/view/109475340
\8\	SIMATIC Process Control System PCS 7 SIMATIC BATCH V8.1 SP1 Operating Manual	https://support.industry.siemens.com/cs/ww/en/view/106471750

11 History

Table 11–1

Version	Date	Change
V1.0	07/2015	First edition

© Siemens AG 2015 All rights reserved