SIEMENS

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Plant Configuration Using WinCC Runtime Professional

Description

http://support.automation.siemens.com/WW/view/de/87054082

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1 Task

Introduction

Automation technology poses most diverse requirements on SCADA systems.

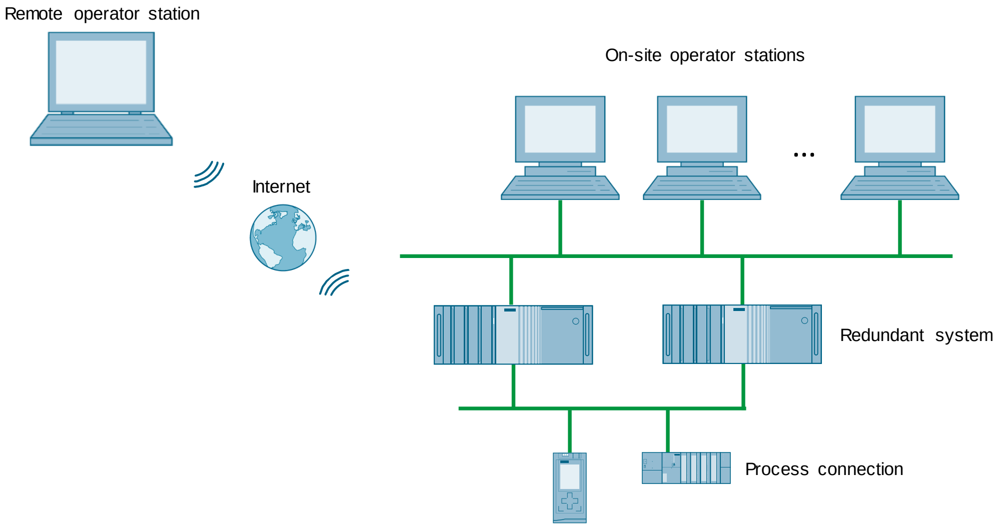
With WinCC Runtime Professional and the available options, you can set up both sophisticated single-user applications and complex multi-user systems with servers and clients. What's more, data transfer for an evaluation in the office world or automatic sending of the production data by e-mail is also possible.

This application shows you the required hardware and software as well as the engineering steps for setting up the different plant configurations.

Overview of the automation task

The figure below gives an overview of the automation task.

Figure 1-1



Main topics of this application

The following topics will be discussed in this application:

- Required hardware and software components of the respective scenario
- Required licenses
- Installation and expansion of the project engineering

Assumed knowledge

This application does not contain a description of the following topics:

- Basic engineering with WinCC (TIA Portal). Only the steps required additionally for the respective setup will be explained.
- Network configuration
- Process connection of the WinCC (TIA Portal) components
- Basics of Microsoft Windows operating systems

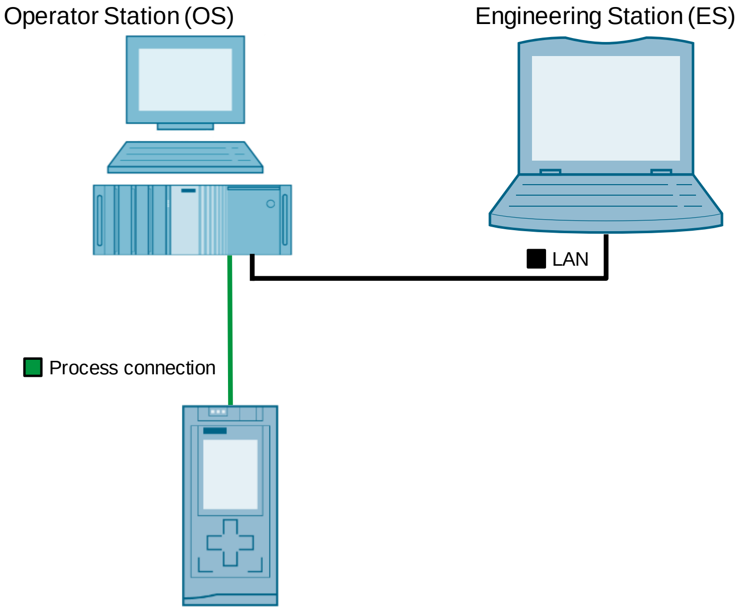
Basic knowledge of these topics is assumed.

2 Single-User System

2.1 Task

Overview

Figure 2-1



Description

For process monitoring, you use a single-user system – the operator station (OS). The OS is connected to the process (e.g., via Ethernet). The engineering station (ES) is used for project engineering. ES and OS can also be designed as one station.

2.2 Solution

2.2.1 Functional principle

A single-user system is an independent WinCC system. The engineering and runtime data are stored locally on the PC.

Single-user systems are usually used close to production. They are suited for smaller applications or for operator control and monitoring of independent subprocesses or plant sections.

Project engineering can be performed either directly at the OS or at a separate ES.

For project engineering, the license "SIMATIC WinCC Professional" is required. For operation at runtime, the license "SIMATIC WinCC Runtime Professional" is required. Both licenses are available in different variants, depending on the number of power tags required in your project. Power tags are tags with process connection.

Advantages

The solution presented here offers you the following advantages:

- Consistent scalability from single-user system to client-server solution
- Investment security
- Easy expandability via power packs or options

2.2.2 Hardware and software components

Hardware components

Table 2-1

Component	No.	Article number	Note
Programmer, e.g., SIMATIC FIELD PG M4	1	6ES7716-2CA10-0CD3	Engineering station
SIMATIC IPC547E	1	6AG4104-3HA34-4BX0	Operator station 19” rack PC, optionally available as tower
Flat Panel SIMATIC IFP1900	1	6AV7863-3TA00-0AA0	Single-touch, alternatively with glass front (multi-touch capable)
Ethernet cable	1	Specialist retailers	For project engineering transfer from ES to OS

Software components

Table 2-2

Component	No.	Article number	Note
SIMATIC WinCC Professional	1	e.g.: 6AV2103-0DA03-0AA5	For installation on the ES
SIMATIC WinCC Runtime Professional	1	e.g.: 6AV2105-0DA03-0AA0	For installation on the OS

Licenses

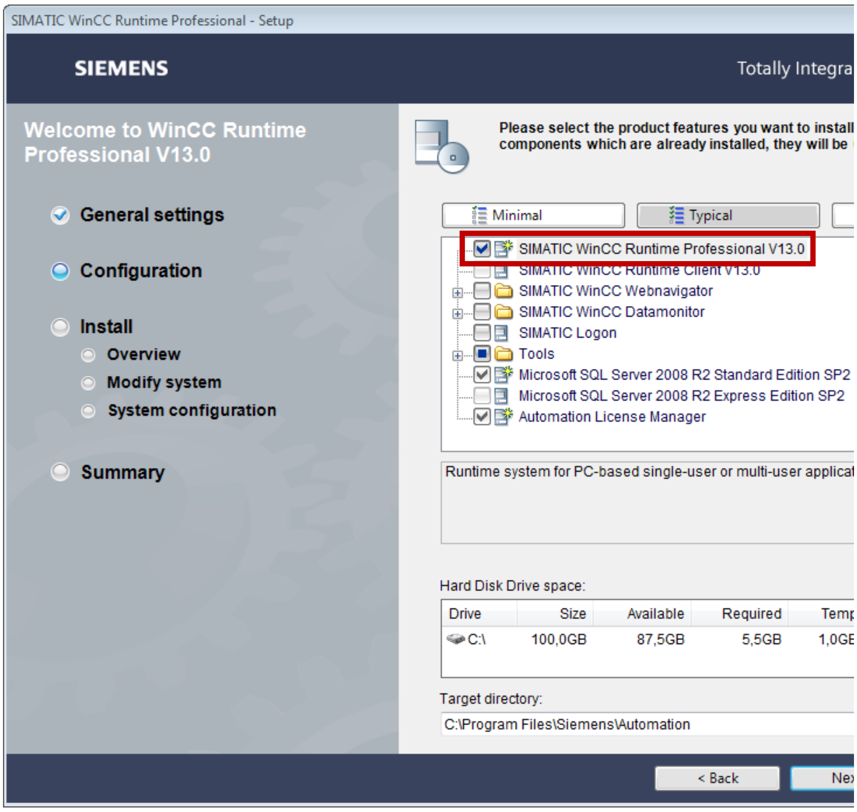
Table 2-3

Component	No.	Article number	Note
SIMATIC WinCC Professional	1		License included in "SIMATIC WinCC Professional" software
SIMATIC WinCC Runtime Professional	1		License included in "SIMATIC WinCC Runtime Professional" software

2.3 Procedure

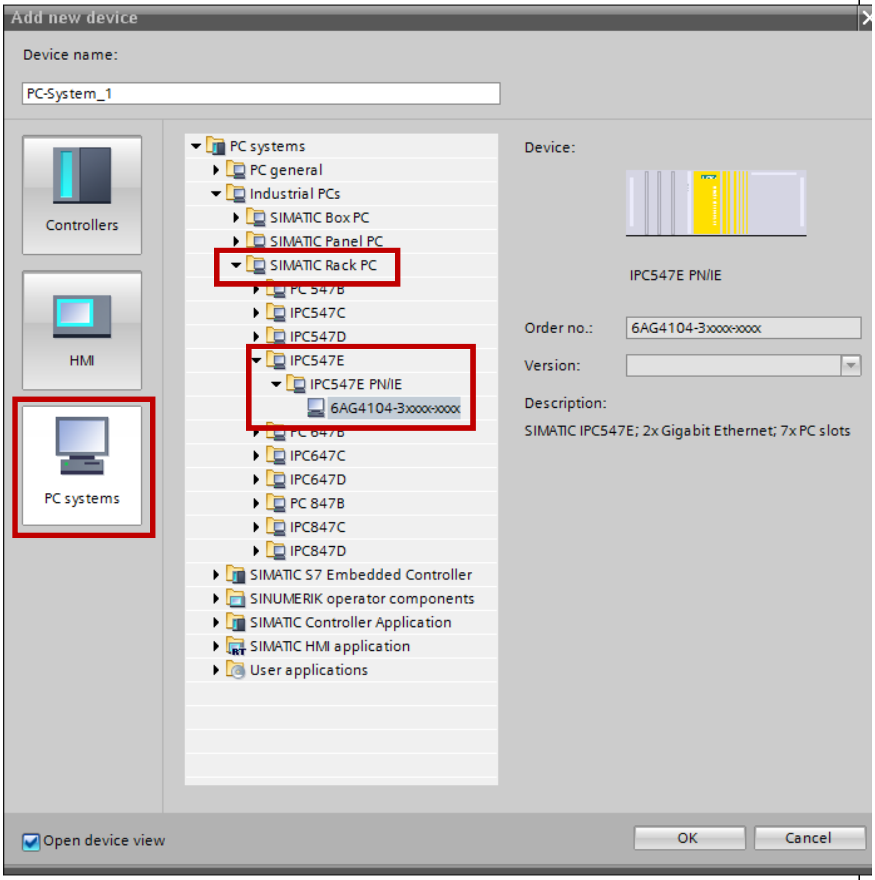
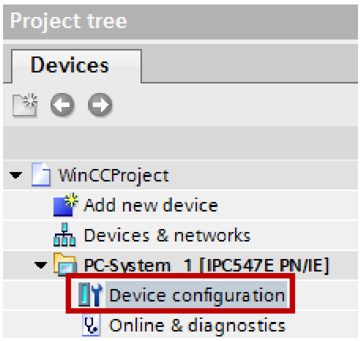
2.3.1 Installation

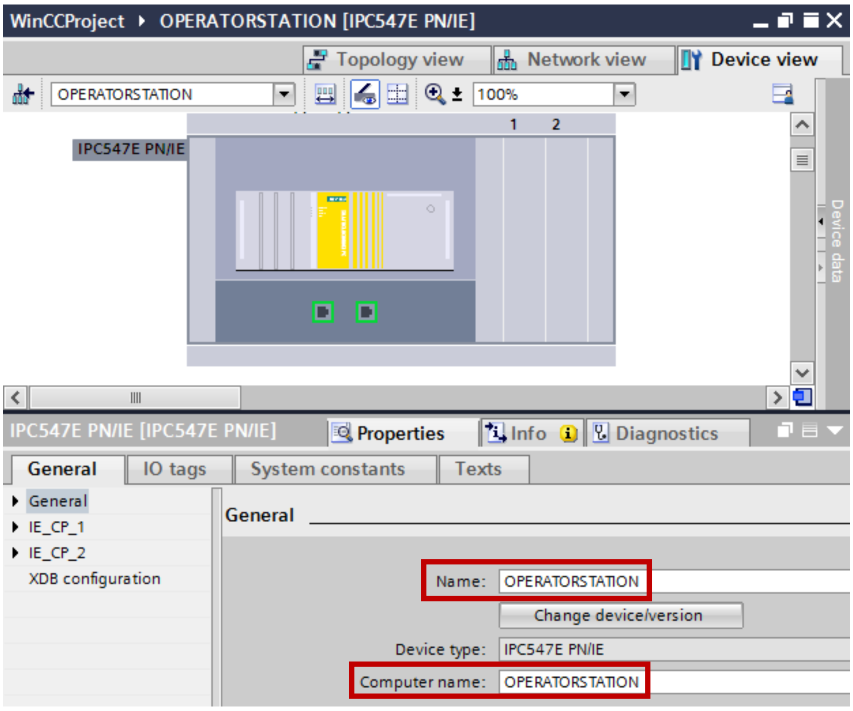
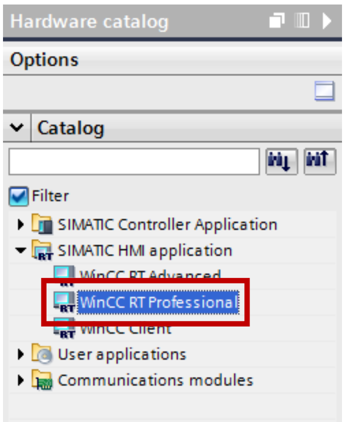
Table 2-4

No.	Action
1.	Start the installation setup "SIMATIC WinCC Runtime Professional" at the OS.
2.	Select the installation language and read the installation and product information.
3.	Select the languages to be installed.
4.	Select the "SIMATIC WinCC Runtime Professional V13.0" component. The components "Documentation Viewer", "Microsoft SQL Server 2008 R2 Standard Edition SP2", and "Automation License Manager" are selected automatically.  SIMATIC WinCC Runtime Professional - Setup Welcome to WinCC Runtime Professional V13.0 Please select the product features you want to install components which are already installed, they will be ☑ SIMATIC WinCC Runtime Professional V13.0 ☐ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ☐ SIMATIC WinCC Datamonitor ☐ SIMATIC Logon ■ Tools ☑ Microsoft SQL Server 2008 R2 Standard Edition SP2 ☐ Microsoft SQL Server 2008 R2 Express Edition SP2 ☑ Automation License Manager Runtime system for PC-based single-user or multi-user applicat Hard Disk Drive space: Drive C:\ Size 100,0GB Available 87,5GB Required 5,5GB Temp 1,0GE Target directory: C:\Program Files\Siemens\Automation If the check box is displayed grayed out, installation is not possible. In this case, click on the component. In the text box below the components, the reason why installation is not possible is indicated (e.g., incompatible software).
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	Transfer the license "SIMATIC WinCC Runtime Professional" from the license data carrier to the OS.

2.3.2 Project engineering

Table 2-5

No.	Action
1.	Open WinCC (TIA Portal) on the programmer and create a new project.
2.	Add the OS (IPC547E).  Device name: PC-System_1 Order no.: 6AG4104-3xxxx-xxxx Version: Description: SIMATIC IPC547E; 2x Gigabit Ethernet; 7x PC slots ☑ Open device view Add new device Controllers HMI PC systems PC systems PC general Industrial PCs SIMATIC Box PC SIMATIC Panel PC SIMATIC Rack PC PC 547B IPC547C IPC547D IPC547E IPC547E PN/IE 6AG4104-3xxxx-xxxx PC 647B IPC647C IPC647D PC 847B IPC847C IPC847D SIMATIC S7 Embedded Controller SINUMERIK operator components SIMATIC Controller Application SIMATIC HMI application User applications Device: IPC547E PN/IE OK Cancel
3.	Open the Device view of the OS.  Project tree Devices WinCCProject Add new device Devices & networks PC-System_1 [IPC547E PN/IE] Device configuration Online & diagnostics

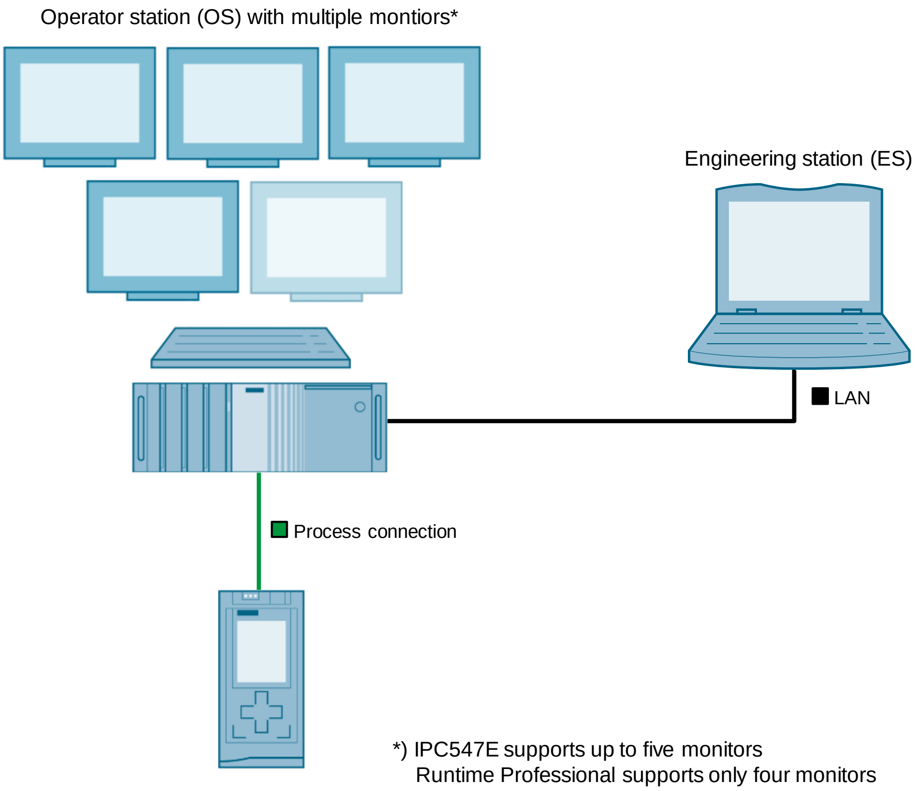
No.	Action
4.	Enter the computer name of the OS set under Windows in the "Name" and "Computer name" fields.  WinCCProject ▸ OPERATORSTATION [IPC547E PN/IE] Topology view Network view Device view OPERATORSTATION 100% IPC547E PN/IE Device data IPC547E PN/IE [IPC547E PN/IE] Properties Info Diagnostics General IO tags System constants Texts General IE_CP_1 IE_CP_2 XDB configuration Change device/version General Name: OPERATORSTATION Device type: IPC547E PN/IE Computer name: OPERATORSTATION
5.	Add "WinCC RT Professional" via "Hardware catalog > SIMATIC HMI Application".  Hardware catalog Options Catalog Filter SIMATIC Controller Application SIMATIC HMI application WinCC RT Advanced WinCC RT Professional WinCC Client User applications Communications modules
6.	Configure WinCC Runtime Professional (screens, runtime settings, etc.).
7.	Transfer the project to the OS. To this end, click the "Download to device" button and navigate to the network folder released for the WinCC projects at the OS (by default: "WinCCprojects"). If you have problems in loading the OS, please regard the notes in \5\ of the References.

3 Single-User System With Multiple Monitors

3.1 Task

Overview

Figure 3-1



*) IPC547E supports up to five monitors
Runtime Professional supports only four monitors

Description

An OS with multiple monitors is used as SCADA system. The OS is connected to the process (e.g., via Ethernet). The engineering station (ES) is used for project engineering. ES and OS can also be designed as one system.

3.2 Solution

3.2.1 Functional principle

A single-user system is an independent WinCC system. The engineering and runtime data are stored locally on the PC.

Single-user systems are usually used close to production. They are suited for smaller applications or for operator control and monitoring of independent subprocesses or plant sections.

The screen window technology is suited for operating the single-user system with multiple monitors. In the project engineering you can define on which monitor a screen window is displayed during runtime. By using screen windows you can adapt the project engineering to your requirements. For example, an overview screen can be displayed on one monitor while on another monitor detail screens are shown. Or you configure independent screen selections for each monitor so that every user can freely select which screen is to be displayed on which monitor.

Project engineering can be performed either directly on the runtime PC or at a separate ES.

For project engineering, the license "SIMATIC WinCC Professional" is required. For operation at runtime, the license "SIMATIC WinCC Runtime Professional" is required. Both licenses are available in different variants, depending on the number of power tags required in your project. Power tags are tags with process connection.

Advantages

- Greater clarity
- Easier comparison of different data/trends
- The extended variant of the Industrial Flat Panel allows a distance of up to 30 meters between the OS and the monitor. Thus, you can set up simple distributed systems cost-effectively.
- Up to 5 monitors can be connected to the SIMATIC IPC547E.
  (Four of these five monitors are useable by Runtime Professional.)

3.2.2 Hardware and software components

Hardware components

Table 3-1

Component	No.	Article number	Note
Programmer, e.g., SIMATIC FIELD PG M4	1	6ES7716-2CA10-0CD3	Engineering station
SIMATIC IPC547E	1	6AG4104-3HA34-4BX0	Operator station 19” rack PC, optionally available as tower
Flat Panel SIMATIC IFP1900	5	6AV7863-3TA00-0AA0	Single-touch, alternatively with glass front (multi-touch capable) Runtime Professional supports max. number of four monitors by independent screen window.
DisplayPort cable	5	6AV7860-0DH30-0AA0	Industry quality, 3 m
Ethernet cable	1	Specialist retailers	For project engineering transfer from ES to OS

Software components

Table 3-2

Component	No.	Article number	Note
SIMATIC WinCC Professional	1	e.g.: 6AV2103-0DA03-0AA5	For installation on the ES
SIMATIC WinCC Runtime Professional	1	e.g.: 6AV2105-0DA03-0AA0	For installation on the OS Runtime Professional supports max. number of four monitors by independent screen window.

Licenses

Table 3-3

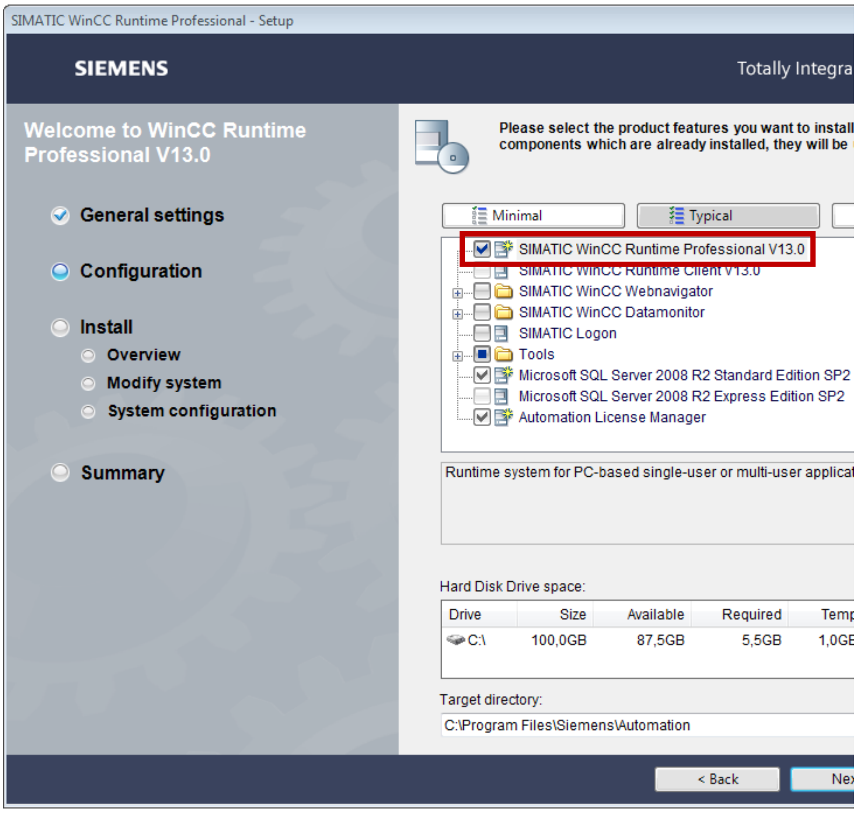
Component	No.	Article number	Note
SIMATIC WinCC Professional	1		License included in "SIMATIC WinCC Professional" software
SIMATIC WinCC Runtime Professional	1		License included in "SIMATIC WinCC Runtime Professional" software

3.3 Procedure

3.3.1 Installation

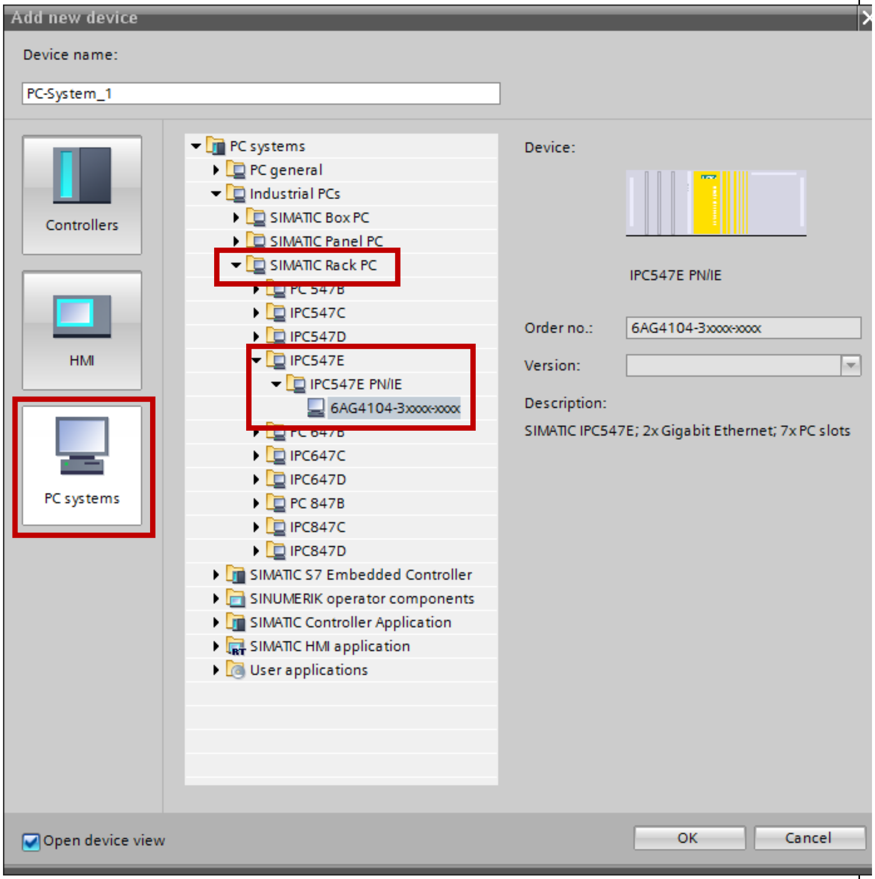
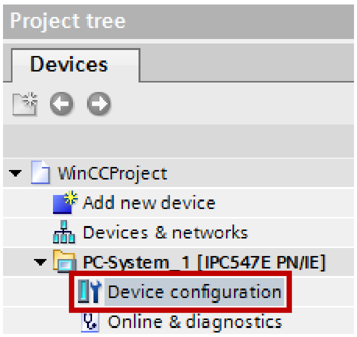
Table 3-4

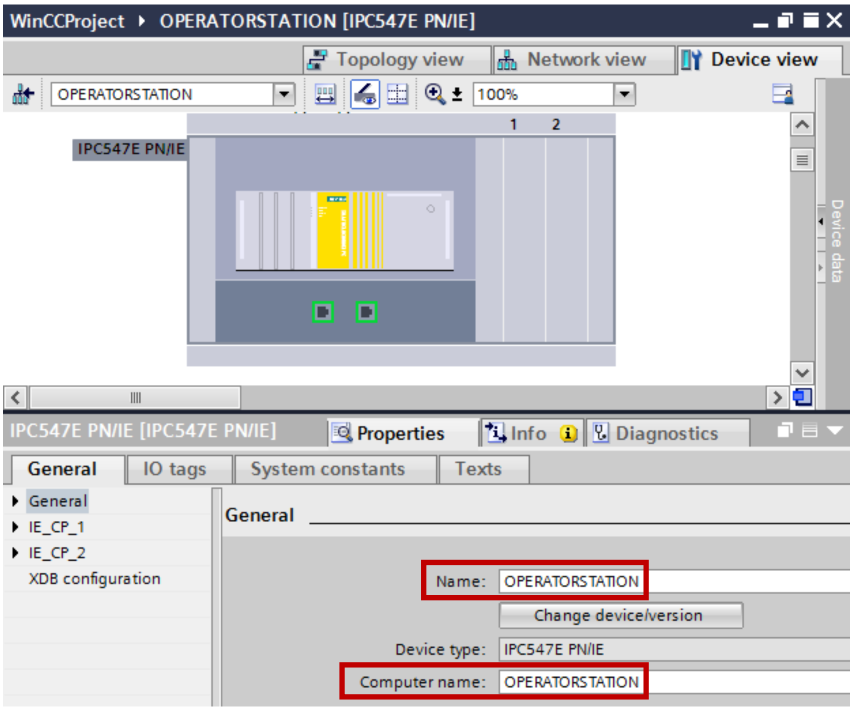
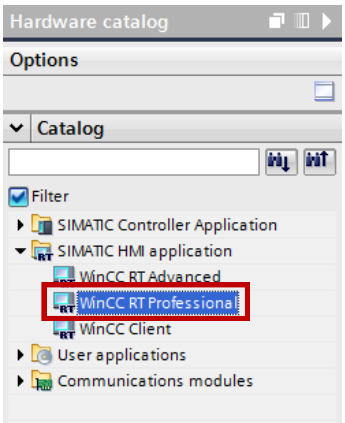
No.	Action
1.	Start the installation setup "SIMATIC WinCC Runtime Professional" at the OS.
2.	Select the installation language and read the installation and product information.
3.	Select the languages to be installed.

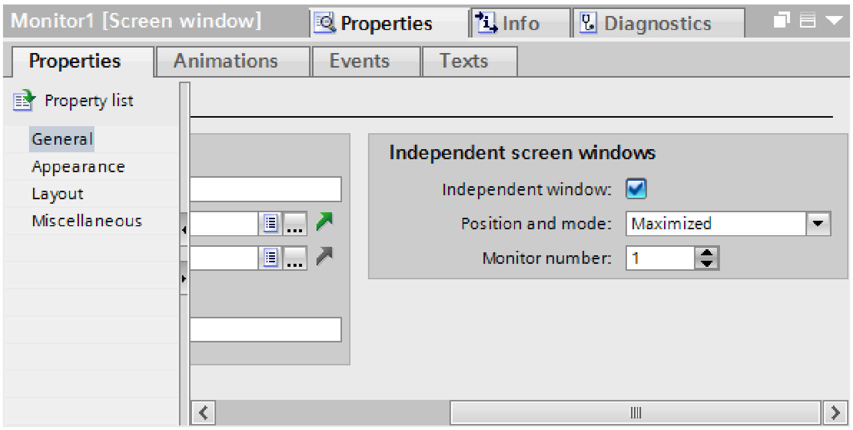
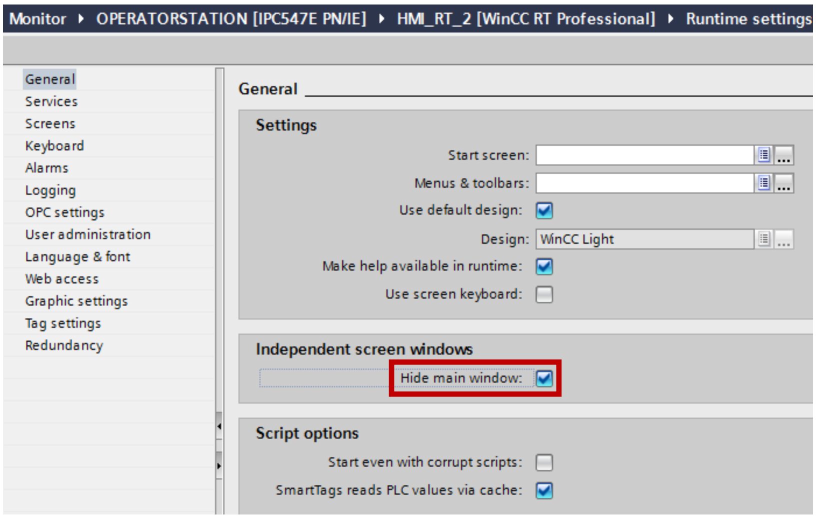
No.	Action
4.	Select the "SIMATIC WinCC Runtime Professional V13.0" component. The components "Documentation Viewer", "Microsoft SQL Server 2008 R2 Standard Edition SP2", and "Automation License Manager" are selected automatically.  SIMATIC WinCC Runtime Professional - Setup SIEMENS Totally Integra Welcome to WinCC Runtime Professional V13.0 General settings Configuration Install Overview Modify system System configuration Summary Please select the product features you want to install components which are already installed, they will be Minimal Typical ☑ SIMATIC WinCC Runtime Professional V13.0 ☐ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ☐ SIMATIC WinCC Datamonitor ☐ SIMATIC Logon ■ Tools ☑ Microsoft SQL Server 2008 R2 Standard Edition SP2 ☐ Microsoft SQL Server 2008 R2 Express Edition SP2 ☑ Automation License Manager Runtime system for PC-based single-user or multi-user applicat Hard Disk Drive space: Drive Size Available Required Temp C:\ 100,0GB 87,5GB 5,5GB 1,0GE Target directory: C:\Program Files\Siemens\Automation < Back Nex If the check box is displayed grayed out, installation is not possible. In this case, click on the component. In the text box below the components, the reason why installation is not possible is indicated (e.g., incompatible software).
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	Transfer the license "SIMATIC WinCC Runtime Professional" from the license data carrier to the OS.

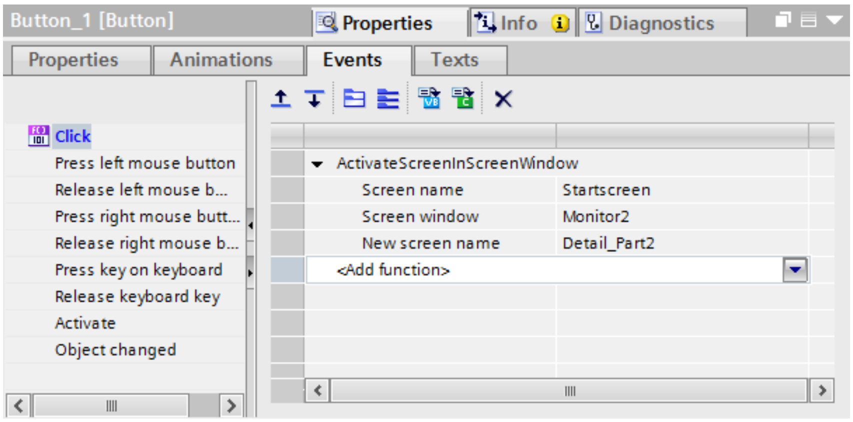
3.3.2 Project engineering

Table 3-5

No.	Action
1.	Open WinCC (TIA Portal) on the programmer and create a new project.
2.	Add the OS (IPC547E).  Device name: PC-System_1 Order no.: 6AG4104-3xxxx-xxxx Version: Description: SIMATIC IPC547E; 2x Gigabit Ethernet; 7x PC slots ☑ Open device view Add new device Controllers HMI PC systems PC systems PC general Industrial PCs SIMATIC Box PC SIMATIC Panel PC SIMATIC Rack PC PC 547B IPC547C IPC547D IPC547E IPC547E PN/IE 6AG4104-3xxxx-xxxx PC 647B IPC647C IPC647D PC 847B IPC847C IPC847D SIMATIC S7 Embedded Controller SINUMERIK operator components SIMATIC Controller Application SIMATIC HMI application User applications Device: IPC547E PN/IE OK Cancel
3.	Open the Device view of the OS.  Project tree Devices WinCCProject Add new device Devices & networks PC-System_1 [IPC547E PN/IE] Device configuration Online & diagnostics

No.	Action
4.	Enter the computer name of the OS set under Windows in the "Name" and "Computer name" fields.  WinCCProject ▸ OPERATORSTATION [IPC547E PN/IE] Topology view Network view Device view 100% IPC547E PN/IE Device data IPC547E PN/IE [IPC547E PN/IE] Properties Info Diagnostics General IO tags System constants Texts IE_CP_1 IE_CP_2 XDB configuration Change device/version Name: OPERATORSTATION Device type: IPC547E PN/IE Computer name: OPERATORSTATION
5.	Add "WinCC RT Professional" via "Hardware catalog > SIMATIC HMI Application".  Hardware catalog Options Catalog Filter SIMATIC Controller Application SIMATIC HMI application WinCC RT Advanced WinCC RT Professional WinCC Client User applications Communications modules
6.	Open the "Screens" folder and add a new screen (e.g., Startscreen) via "Add new screen".
7.	For each monitor, add a screen window from the "Controls" object palette to the screen. Under "Properties > Miscellaneous", assign names to the screen windows (e.g., Monitor1, Monitor2,...).

No.	Action
8.	Open "Properties > General" and check the "Independent window" check box. Select "Maximized" for Position and mode and set the monitor number.  Monitor1 [Screen window] Properties Info Diagnostics Properties Animations Events Texts Property list General Appearance Layout Miscellaneous Independent screen windows Independent window: ☑ Position and mode: Maximized Monitor number: 1 The monitor number must be identical with the one set under Windows. It can be found at "Start > Control Panel > Appearance and Personalization > Adjust screen resolution". Click the "Identify" button to display the monitor number on the respective monitor.
9.	Open the Runtime settings. Check the "Hide main window" check box in order that only the screen windows are shown during runtime.  Monitor ▸ OPERATORSTATION [IPC547E PN/IE] ▸ HMI_RT_2 [WinCC RT Professional] ▸ Runtime settings General Services Screens Keyboard Alarms Logging OPC settings User administration Language & font Web access Graphic settings Tag settings Redundancy General Settings Start screen: Menus & toolbars: Use default design: ☑ Design: WinCC Light Make help available in runtime: ☑ Use screen keyboard: ☐ Independent screen windows Hide main window: ☑ Script options Start even with corrupt scripts: ☐ SmartTags reads PLC values via cache: ☑
10.	Complete project engineering.

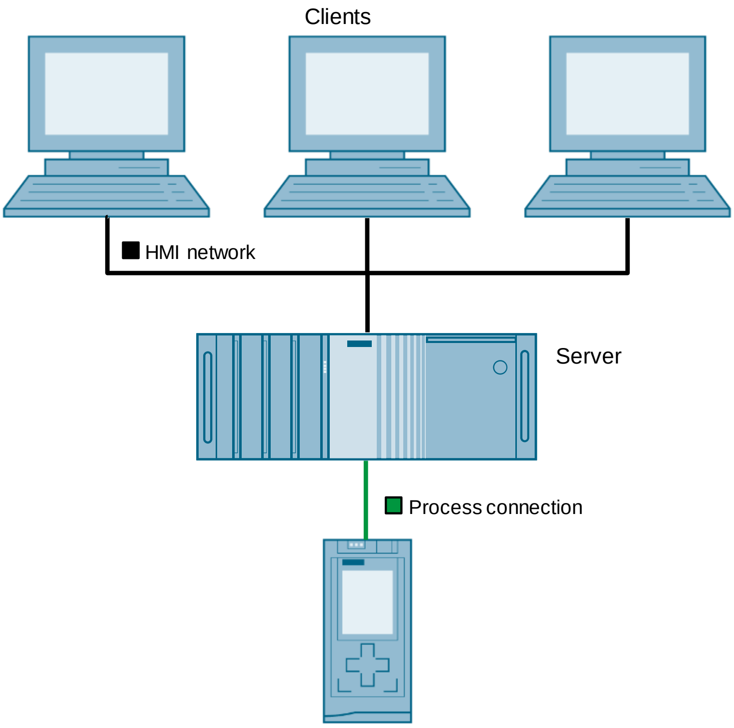
No.	Action
11.	For a screen change, configure the event "ActivateScreenInScreenWindow". Under "Screen name", enter the name of the screen that contains the screen windows (e.g., "Startscreen"). Under "Screen window", enter the name of the screen window (e.g., "Monitor2"). Under "New screen name", enter the name of the screen that is to be displayed in the screen window.  Button_1 [Button] Properties Info Diagnostics Properties Animations Events Texts Click Press left mouse button Release left mouse b... Press right mouse butt... Release right mouse b... Press key on keyboard Release keyboard key Activate Object changed <Add function> ActivateScreenInScreenWindow Screen name Startscreen Screen window Monitor2 New screen name Detail_Part2
12.	Transfer the project to the OS. To this end, click the "Download to device" button and navigate to the network folder released for the WinCC projects at the OS (by default: "WinCCprojects"). If you have problems in loading the OS, please regard the notes in \5\ of the References.

4 Multi-User System

4.1 Task

Overview

Figure 4-1



Description

The SCADA system runs on a server. This server is connected to the process (e.g., via Ethernet). Operation is to be possible from multiple different operator stations.

This application is suited for small- to medium-sized plants in which operation is effected from different operator stations, but distribution of the data to multiple servers is not required.

4.2 Solution

4.2.1 Functional principle

The multi-user system consists of one central server and multiple distributed clients.

The WinCC server features the process connection and automatically supplies the WinCC clients with the engineering and process data. All WinCC data (e.g., screens, archives) are stored on the WinCC server.

The WinCC clients do not require separate project engineering, but just configuration with some general settings. For each WinCC client you can individually define the start screen, runtime language, toolbar, navigation keys, locking of key combinations, and screen properties.

Depending on your requirements, the WinCC clients have either the same or different tasks. This is configured via different users and their access rights. Thus, you can allow for different views and operating options for the plant dependent on the logged-in user. Adding further WinCC clients subsequently is also possible.

Since the WinCC data are stored centrally on the WinCC server, process specifications or message acknowledgments are consistently provided at all operator stations. Any operator intervention, e.g., a value change, is immediately visible at all operator stations.
In the event of a system failure during runtime or when the WinCC server is terminated, the WinCC clients are not supplied with data. In this case, the missing connection is indicated by grayed-out fields and a corresponding display in the controls. Once the WinCC server is available again, the WinCC clients are reconnected.

A prerequisite for the project engineering of a multi-user system is that the WinCC server and WinCC clients are interconnected via a network. The WinCC server and WinCC clients can also be connected via a router.

If you have made changes to the project, you can transfer these without ending the runtime on the WinCC server. When executing the "Load changes" function, only the changed or added runtime objects are loaded. During project engineering, a warning is issued whenever you make changes that do not support the "Load changes" function.

Advantages

- Low engineering effort
- Low effort in the case of changes
- Cost-efficient solution for SCADA applications of medium complexity
- Expandability to up to 32 WinCC clients
- Increased availability of the WinCC server due to the "Load changes" function

Quantity framework

- Microsoft Windows 7, 3 WinCC clients max.
- Microsoft Windows Server 2008/2012, 32 WinCC clients max.

Regard the specifications in \6\ for the released operating systems.

4.2.2 Hardware and software components

Hardware components

Table 4-1

Component	No.	Article number	Note
Programmer, e.g., SIMATIC FIELD PG M4	1	6ES7716-2CA10-0CD3	Engineering station
SIMATIC IPC547E	1	6AG4104-3HA42-0FX0	WinCC server 19” rack PC, optionally available as tower
SIMATIC IPC477D	3	6AV7240-0BC05-0KA0	WinCC client Alternatively: Microbox PC SIMATIC IPC427D with SIMATIC Flat Panel IFP1900
SCALANCE X204-2	1	6GK5204-2BB10-2AA3	
Ethernet cable	5	Specialist retailers	

Software components

Table 4-2

Component	No.	Article number	Note
SIMATIC WinCC Professional	1	e.g.: 6AV2103-0DA03-0AA5	For installation on the ES
SIMATIC WinCC Runtime Professional	1	e.g.: 6AV2105-0DA03-0AA0	For installation on the OS

Licenses

Table 4-3

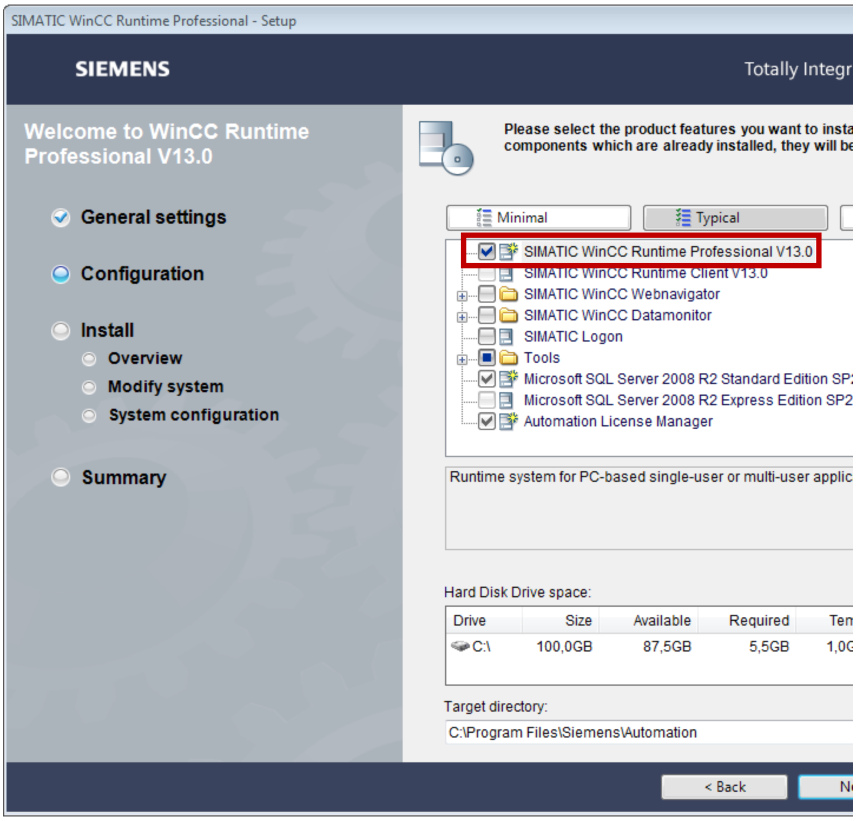
Component	No.	Article number	Note
SIMATIC WinCC Professional	1		License included in "SIMATIC WinCC Professional" software
SIMATIC WinCC Runtime Professional	1		License included in "SIMATIC WinCC Runtime Professional" software
SIMATIC WinCC Server for Runtime Professional	1	6AV2107-0EB00-0BB0	
SIMATIC WinCC Client for Runtime Professional	3	6AV2107-0DB03-0AA0	One license required per client

4.3 Procedure

4.3.1 Installation

WinCC server

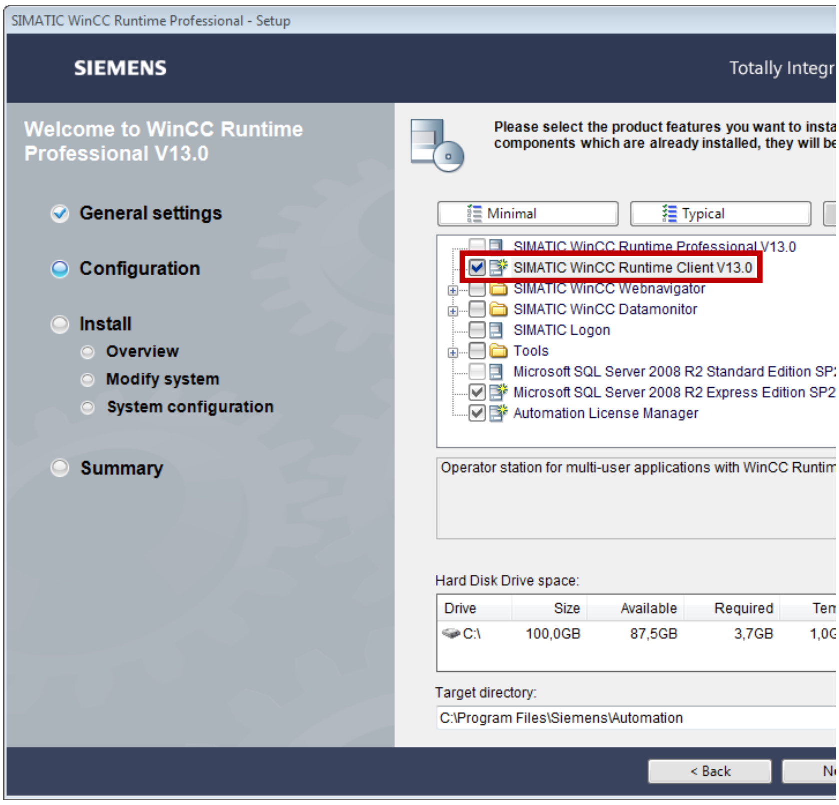
Table 4-4

No.	Action
1.	Start the installation setup "SIMATIC WinCC Runtime Professional" on the WinCC server.
2.	Select the installation language and read the installation and product information.
3.	Select the languages to be installed.
4.	Select the "SIMATIC WinCC Runtime Professional V13.0" component. The components "Documentation Viewer", "Microsoft SQL Server 2008 R2 Standard Edition SP2", and "Automation License Manager" are selected automatically.  SIMATIC WinCC Runtime Professional - Setup SIEMENS Totally Integr Welcome to WinCC Runtime Professional V13.0 General settings Configuration Install Overview Modify system System configuration Summary Minimal Typical < Back N Please select the product features you want to insta components which are already installed, they will be ☑ SIMATIC WinCC Runtime Professional V13.0 ☐ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ☐ SIMATIC WinCC Datamonitor ☐ SIMATIC Logon ■ Tools ☑ Microsoft SQL Server 2008 R2 Standard Edition SP ☐ Microsoft SQL Server 2008 R2 Express Edition SP2 ☑ Automation License Manager Runtime system for PC-based single-user or multi-user applic Hard Disk Drive space: Drive Size Available Required Ten C:\ 100,0GB 87,5GB 5,5GB 1,0G Target directory: C:\Program Files\Siemens\Automation If the check box is displayed grayed out, installation is not possible. In this case, click on the component. In the text box below the components, the reason why installation is not possible is indicated (e.g., incompatible software).
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	Transfer the licenses "SIMATIC WinCC Runtime Professional" and "SIMATIC WinCC Server for Runtime Professional" from the license data carrier to the OS.

WinCC clients

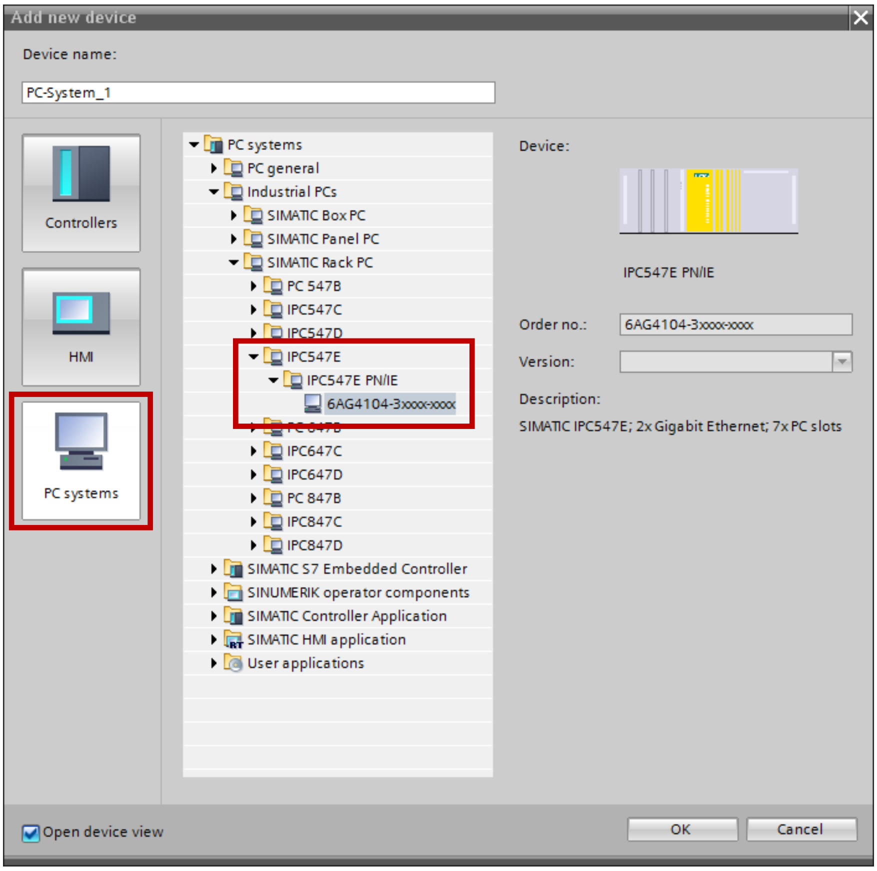
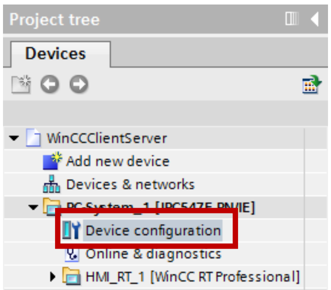
Perform the following steps on every WinCC client:

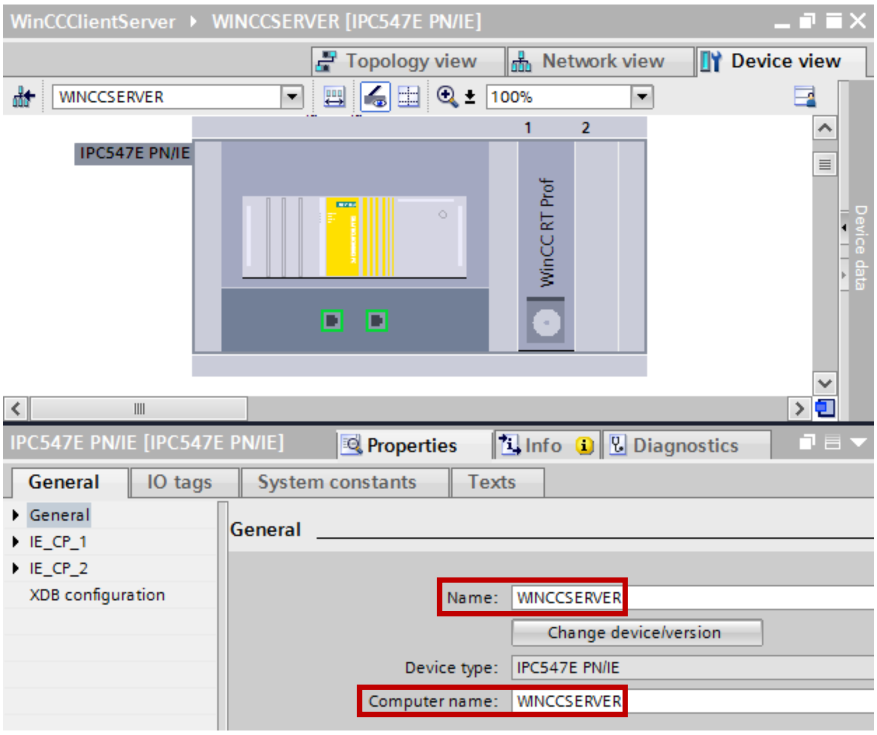
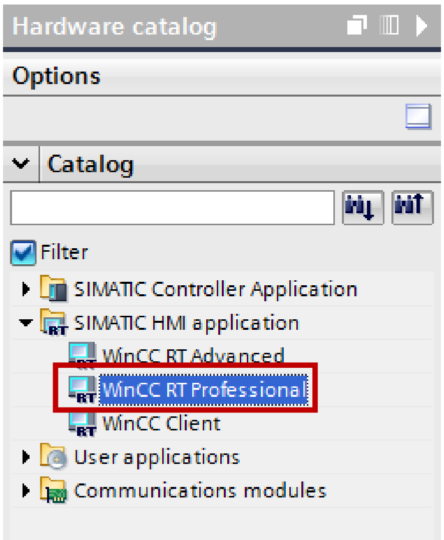
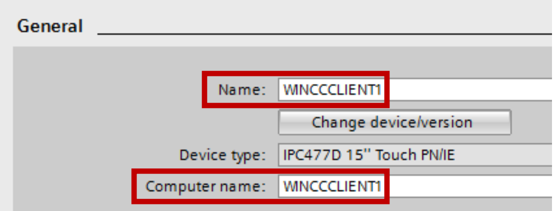
Table 4-5

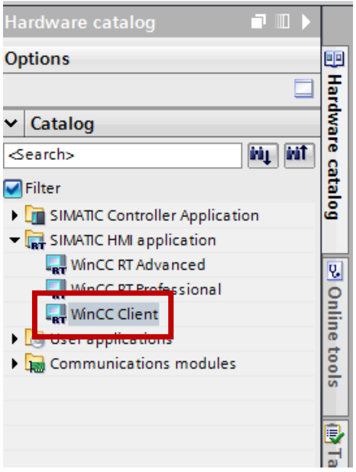
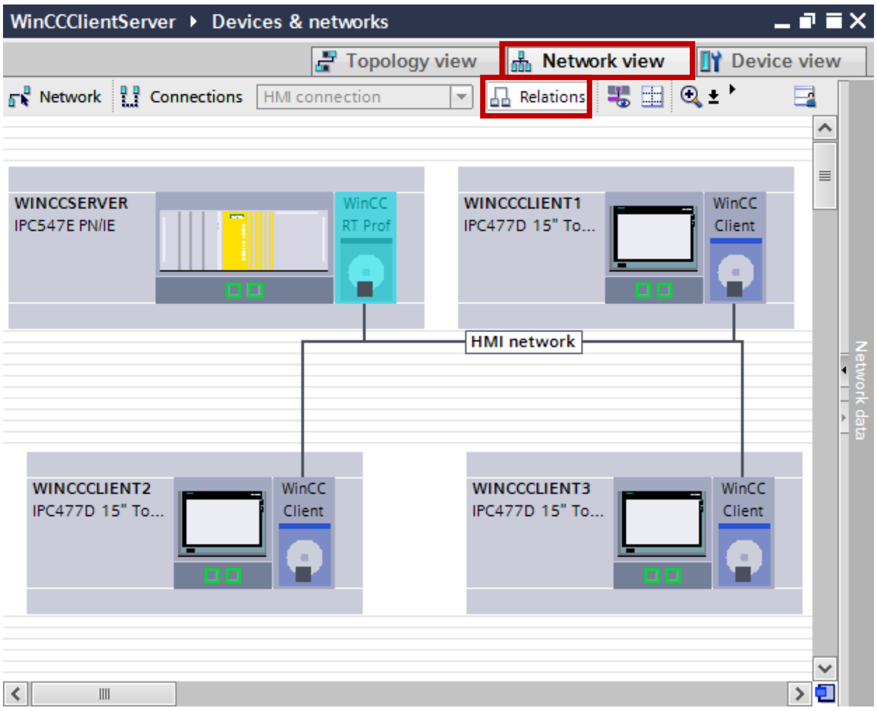
No.	Action
1.	Start the installation setup "SIMATIC WinCC Runtime Professional".
2.	Select the installation language.
3.	Select the languages to be installed.
4.	Deselect the preselected components and select the component "SIMATIC WinCC Runtime Client V13.0". The components "Microsoft SQL Server 2008 R2 Express Edition SP2" and "Automation License Manager" are selected automatically.  Please select the product features you want to insta components which are already installed, they will be ☐ SIMATIC WinCC Runtime Professional V13.0 ☑ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ☐ SIMATIC WinCC Datamonitor ☐ SIMATIC Logon ☐ Tools ☐ Microsoft SQL Server 2008 R2 Standard Edition SP: ☑ Microsoft SQL Server 2008 R2 Express Edition SP2 ☑ Automation License Manager Operator station for multi-user applications with WinCC Runtim Hard Disk Drive space: Drive: C:\ – Size: 100,0GB – Available: 87,5GB – Required: 3,7GB – Ten: 1,0(Target directory: C:\Program Files\Siemens\Automation SIMATIC WinCC Runtime Professional - Setup SIEMENS Totally Integr Welcome to WinCC Runtime Professional V13.0 General settings Configuration Install Overview Modify system System configuration Summary Minimal Typical < Back N
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	Transfer the license "SIMATIC WinCC Client for Runtime Professional" from the license data carrier to the WinCC client.

4.3.2 Project engineering

Table 4-6

No.	Action
1.	Open WinCC (TIA Portal) on the programmer and create a new project.
2.	Add the WinCC server (IPC547E) and WinCC clients (IPC477D).  Add new device Controllers HMI PC systems PC systems PC general Industrial PCs SIMATIC Box PC SIMATIC Panel PC SIMATIC Rack PC PC 547B IPC547C IPC547D IPC547E IPC547E PN/IE 6AG4104-3xxxx-xxxx PC 647B IPC647C IPC647D PC 847B IPC847C IPC847D SIMATIC S7 Embedded Controller SINUMERIK operator components SIMATIC Controller Application SIMATIC HMI application User applications Device: IPC547E PN/IE OK Cancel Device name: PC-System_1 Order no.: 6AG4104-3xxxx-xxxx Version: Description: SIMATIC IPC547E; 2x Gigabit Ethernet; 7x PC slots ☑ Open device view
3.	Open the Device view of the WinCC server.  Project tree Devices WinCCClientServer Add new device Devices & networks PC-System_1 [IPC547E PN/IE] Device configuration Online & diagnostics HMI_RT_1 [WinCC RT Professional]

No.	Action
4.	Enter the computer name of the WinCC server set under Windows in the "Name" and "Computer name" fields.  WinCCClientServer ▸ WINCCSERVER [IPC547E PN/IE] Topology view Network view Device view WINCCSERVER 100% IPC547E PN/IE 1 2 WinCC RT Prof Device data IPC547E PN/IE [IPC547E PN/IE] Properties Info Diagnostics General IO tags System constants Texts General IE_CP_1 IE_CP_2 XDB configuration General Change device/version Name: WINCCSERVER Device type: IPC547E PN/IE Computer name: WINCCSERVER
5.	Add "WinCC RT Professional" via "Hardware catalog > SIMATIC HMI Application".  Hardware catalog Options Catalog Filter SIMATIC Controller Application SIMATIC HMI application WinCC RT Advanced WinCC RT Professional WinCC Client User applications Communications modules
6.	Open the Device view of the WinCC client.
7.	Enter the computer name in the "Name" and "Computer name" fields.  General Change device/version Name: WINCCCLIENT1 Device type: IPC477D 15" Touch PN/IE Computer name: WINCCCLIENT1

No.	Action
8.	Add "WinCC Client" via "Hardware catalog > SIMATIC HMI Application".  Hardware catalog Options Catalog <Search> Filter SIMATIC Controller Application SIMATIC HMI application WinCC RT Advanced WinCC RT Professional WinCC Client User applications Communications modules Hardware catalog Online tools
9.	Perform steps 6-8 for the other WinCC clients, too.
10.	Change to the Network view and activate the "Relations" field. Create an HMI relation between the WinCC server and each WinCC client using drag and drop.  WinCCClientServer ▸ Devices & networks Topology view Network view Device view Network Connections HMI connection Relations WINCCSERVER IPC547E PN/IE WinCC RT Prof WINCCCLIENT1 IPC477D 15" To... WinCC Client HMI network WINCCCLIENT2 IPC477D 15" To... WinCC Client WINCCCLIENT3 IPC477D 15" To... WinCC Client Network data
11.	Create the users at "IPC 547E > WinCC RT Professional > User administration". Grant the authorizations to the user groups. To activate the WinCC project on the WinCC client, the user requires the authorization "Enable remote control" (number 1000). With this authorization, the user can remotely activate/deactivate also the runtime on the WinCC server.
12.	Complete project engineering of the WinCC server (screens, runtime settings, etc.).

No.	Action
13.	Open the runtime settings of a WinCC client. Define the configuration (e.g., start screen, services, properties of the runtime window). Perform these steps for all WinCC clients.
14.	Transfer the project to the WinCC server. To this end, click the "Download to device" button and navigate to the network folder released for the WinCC projects on the WinCC server (by default: "WinCCprojects"). The configuration of the WinCC clients is also loaded to the WinCC server and distributed to the WinCC clients at runtime. If you have problems in loading the WinCC server, please regard the notes in \5\ of the References.

4.3.3 Further settings

Operating system settings

In order that the WinCC client can access the project of the WinCC server, the following conditions must be met:

- The network must be a home or workplace network
- On both the WinCC server and WinCC client, the same Windows user with the same password must be logged in
- The password must not be blank
- The Windows user must at least be a main user and a member of the "SIMATIC HMI" group
- The project must be stored in a folder released in the network (e.g., WinCCProjects)

Starting the project

- **Starting the project on the WinCC server**

  Open "Start > All Programs > Siemens Automation > Runtime Systems > WinCC Runtime Professional > WinCC RT Start". Select the project and activate runtime.
- **Starting the project on the WinCC client**

  Open "Start > All Programs > Siemens Automation > Runtime Systems > WinCC Runtime Professional > WinCC RT Start". Navigate to the project folder on the WinCC server and select the project. Log in with the WinCC user name and password.
- **Activating the project remotely**

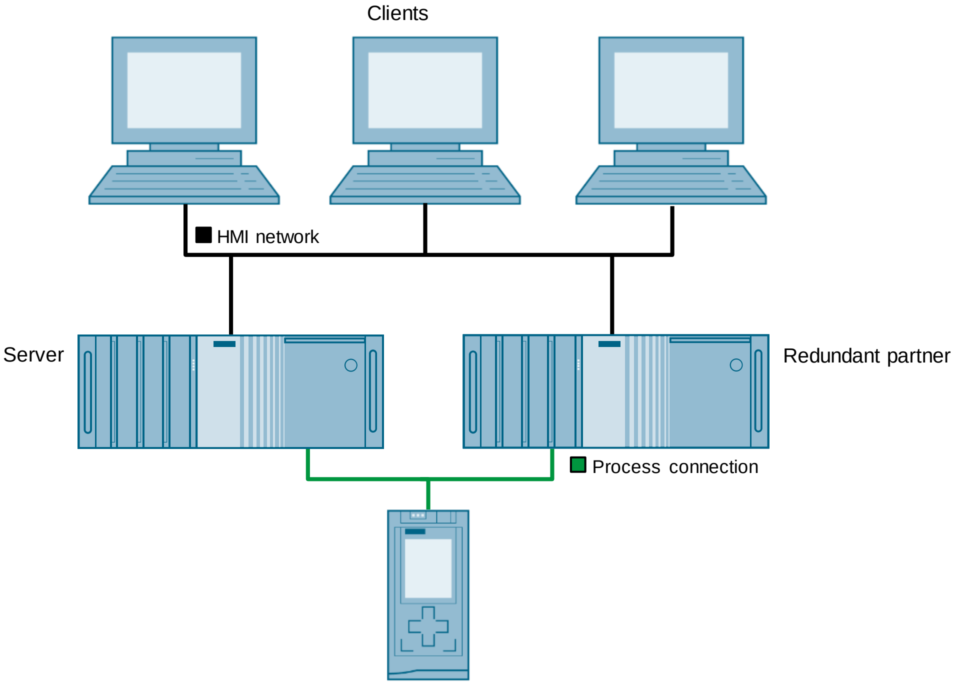
  Open the Simatic Shell on the WinCC client via "Start > Computer". Click on the WinCC server. Right-click on the project (station name). Click on "Remote activation". The server project can only be activated remotely from the WinCC client if it has already been opened on the WinCC server.

5 Redundant Systems

5.1 Task

Overview

Figure 5-1



Description

The SCADA system runs on a server. To increase plant availability, a second, redundant server is used. Operation is to be possible from multiple, different operator stations.

This application is suited for plants in which the downtimes are to be kept as low as possible.

5.2 Solution

5.2.1 Functional principle

In a multi-user system you can alternatively use a redundant server pair instead of the server. This means that two interconnected WinCC servers work in parallel, continuously monitoring each other. In case one WinCC server fails, the connected WinCC clients are automatically switched to the active server. During a failure, the active WinCC server archives all messages and process data. After the failed WinCC server has returned, these are automatically synchronized. In normal mode, too, data such as internal messages or recipes can be synchronized.

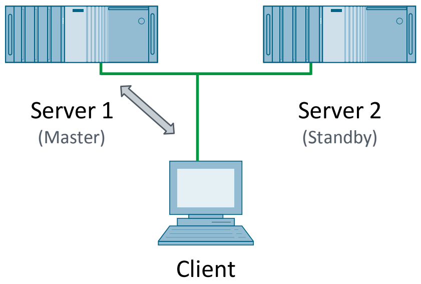
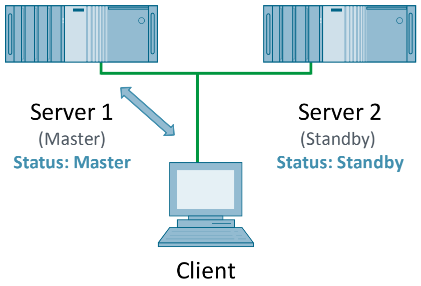
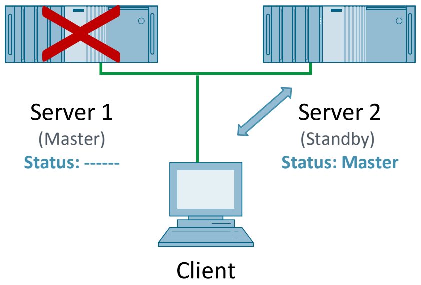
For redundant WinCC servers with multi-user operation, Windows Server 2008 or Windows Server 2012 must be used. Please regard the released operating system versions in \6\.

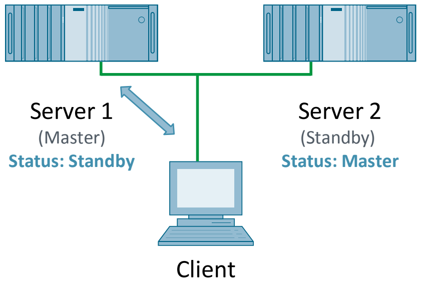
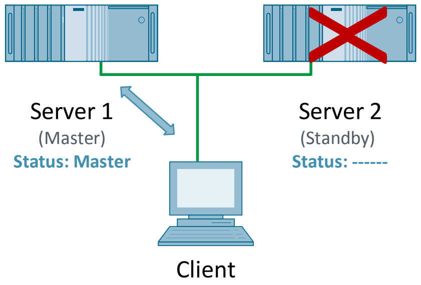
In normal mode, the two redundant WinCC servers work with equal priority. They can define individually for each WinCC client with which WinCC server it is preferably connected.

Behavior in the event of a failure

In the runtime settings of the WinCC clients you define with which WinCC server (master or standby) the respective WinCC client preferably connects. This setting relates to the redundancy settings in the project, not to the actual server status.

Table 5-1

Description	Figure
Server1 is configured as master server, Server2 as standby server. In the runtime settings of the WinCC client you define the "Master" as preferred server.	 Server 1 (Master) Server 2 (Standby) Client
When runtime is activated, the WinCC client connects with Server1.	 Server 1 (Master) Status: Master Server 2 (Standby) Status: Standby Client
If Server1 fails, Server2 assumes the "Master" status. The WinCC client is automatically connected with Server2.	 Server 1 (Master) Status: ------ Server 2 (Standby) Status: Master Client

Description	Figure
After Server1 has returned, it is assigned the "Standby" status, Server2 remains "Master". The WinCC client nevertheless reconnects with Server1.	 Server 1 (Master) Status: Standby Server 2 (Standby) Status: Master Client
Server1 is only reassigned the "Master" status when Server2 fails.	 Server 1 (Master) Status: Master Server 2 (Standby) Status: ------ Client

Advantages

- Automatic switchover if a server or communication to the server fails
- Increased system availability
- Continuous operation and visualization
- Automatic synchronization of all archive and message information in the background after a failure has been rectified

5.2.2 Hardware and software components

Hardware components

Table 5-2

Component	No.	Article number	Note
Programmer, e.g., SIMATIC FIELD PG M4	1	6ES7716-2CA10-0CD3	Engineering station

Component	No.	Article number	Note
SIMATIC IPC547E	2	6AG4104-3HA42-2FX0	WinCC server 19” rack PC, optionally available as tower
SIMATIC IPC477D	3	6AV7240-0BC05-0KA0	WinCC client Alternatively: Microbox PC SIMATIC IPC427D with SIMATIC Flat Panel IFP1900
SCALANCE X206-1	1	6GK5206-1BB10-2AA3	
Ethernet cable	6	Specialist retailers	

Software components

Table 5-3

Component	No.	Article number	Note
SIMATIC WinCC Professional	1	e.g.: 6AV2103-0DA03-0AA5	For installation on the ES
SIMATIC WinCC Runtime Professional	2	e.g.: 6AV2105-0DA03-0AA0	For installation on the OS

Licenses

Table 5-4

Component	No.	Article number	Note
SIMATIC WinCC Professional	1		License included in "SIMATIC WinCC Professional" software
SIMATIC WinCC Runtime Professional	2		License included in "SIMATIC WinCC Runtime Professional" software
SIMATIC WinCC Client for Runtime Professional	3	6AV2107-0DB03-0AA0	One license required per WinCC client
SIMATIC WinCC Redundancy for Runtime Professional	1	6AV2107-0FB00-0BB0	
SIMATIC WinCC Server for Runtime Professional	2	6AV2107-0EB00-0BB0	

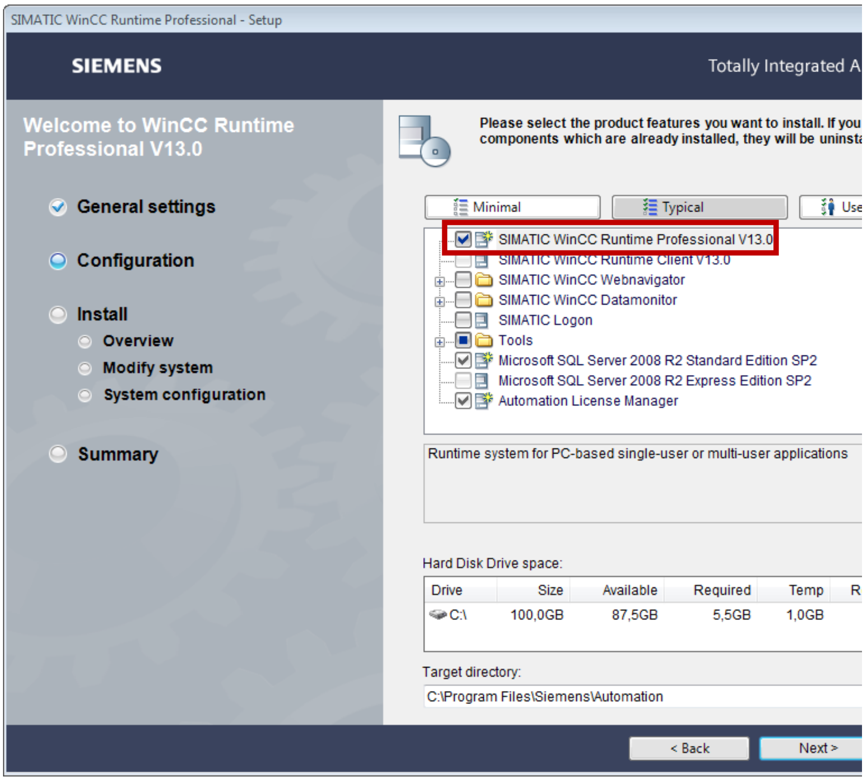
Note Please note that the two redundant servers must be structured identically. Install the same licenses on both servers.

5.3 Procedure

5.3.1 Installation

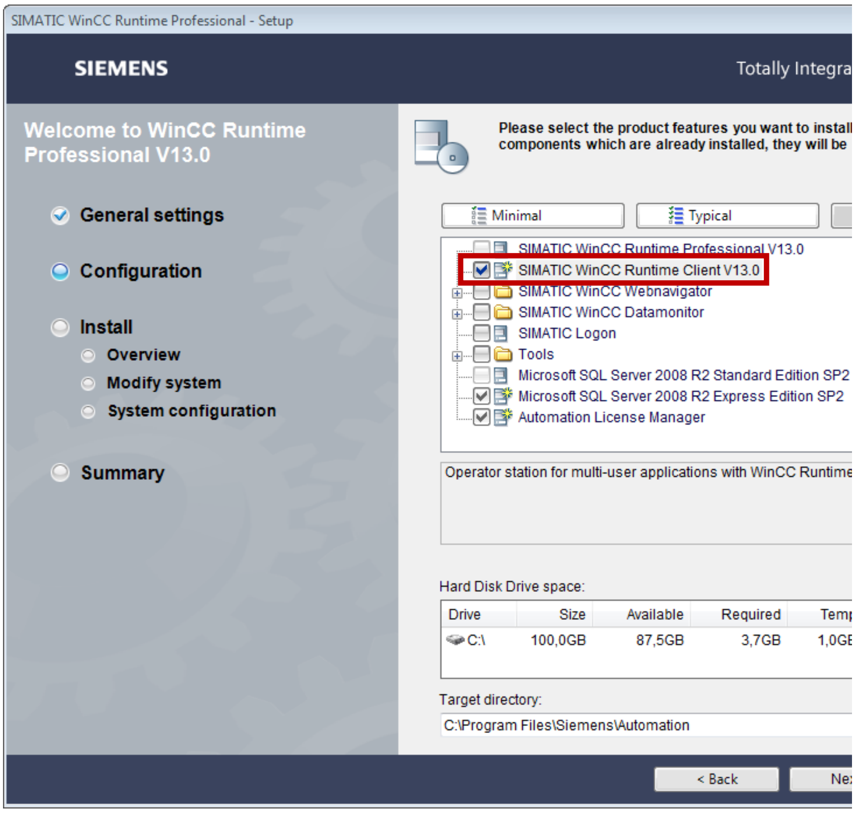
WinCC server

Table 5-5

No.	Action
1.	Start the installation setup "WinCC Runtime Professional" on the WinCC server.
2.	Select the installation language and read the installation and product information.
3.	Select the languages to be installed.
4.	Select the "SIMATIC WinCC Runtime Professional V13.0" component. The components "Documentation Viewer", "Microsoft SQL Server 2008 R2 Standard Edition SP2", and "Automation License Manager" are selected automatically.  SIMATIC WinCC Runtime Professional - Setup Please select the product features you want to install. If you components which are already installed, they will be uninsta ☑ SIMATIC WinCC Runtime Professional V13.0 ☐ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ☐ SIMATIC WinCC Datamonitor ☐ SIMATIC Logon ■ Tools ☑ Microsoft SQL Server 2008 R2 Standard Edition SP2 ☐ Microsoft SQL Server 2008 R2 Express Edition SP2 ☑ Automation License Manager Runtime system for PC-based single-user or multi-user applications Hard Disk Drive space: Drive C:\ Size 100,0GB Available 87,5GB Required 5,5GB Temp 1,0GB Target directory: C:\Program Files\Siemens\Automation If the check box is displayed grayed out, installation is not possible. In this case, click on the component. In the text box below the components, the reason why installation is not possible is indicated (e.g., incompatible software).
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	Transfer the licenses "SIMATIC WinCC Runtime Professional", "SIMATIC WinCC Server" and "SIMATIC WinCC Redundancy" from the license data carrier to the WinCC server.
8.	Perform these steps on the second WinCC server.

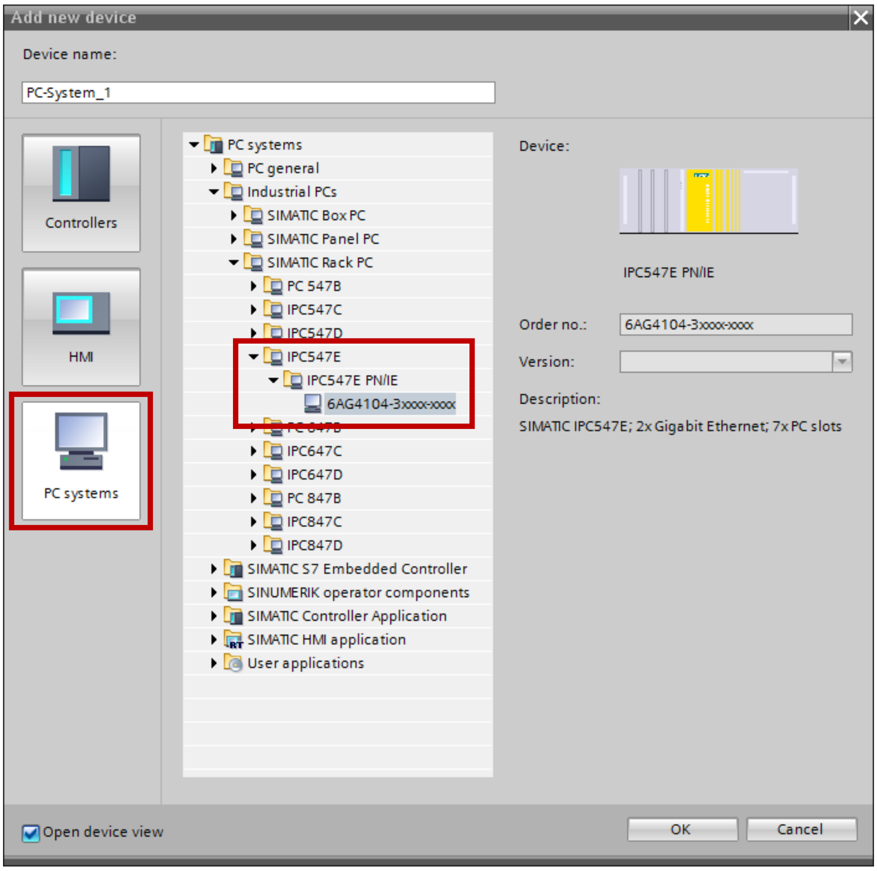
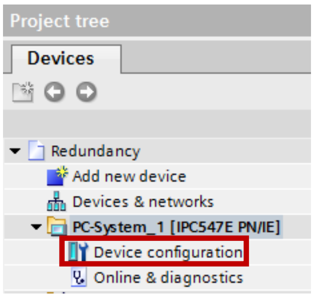
WinCC client

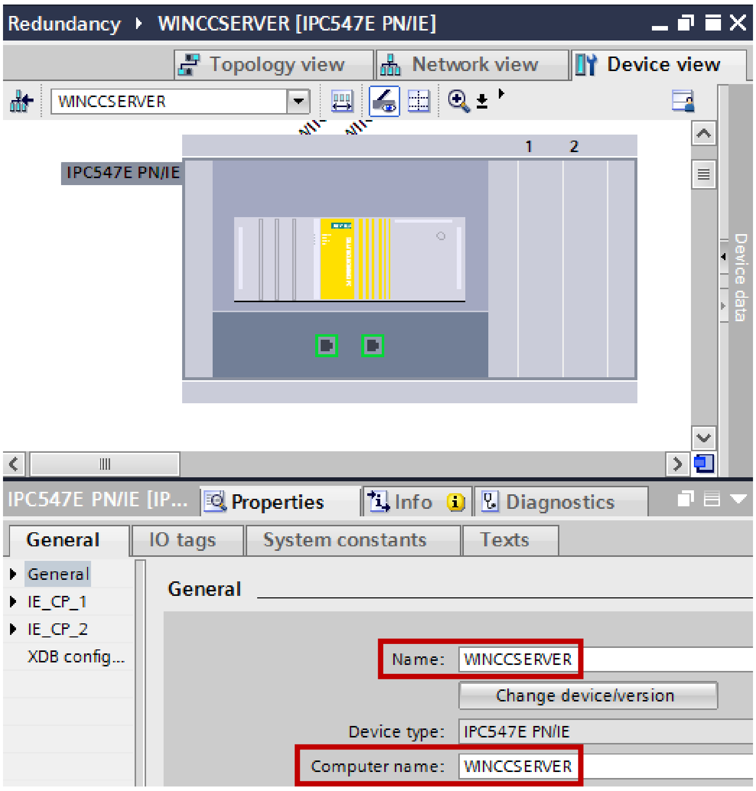
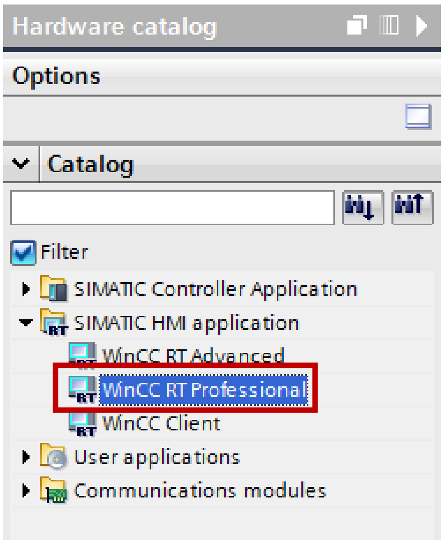
Table 5-6

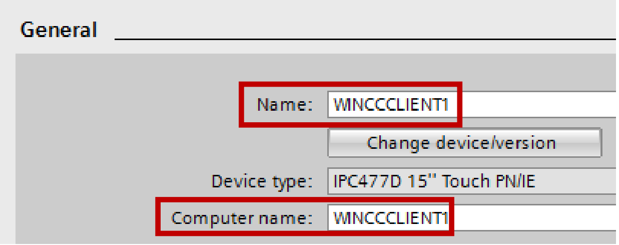
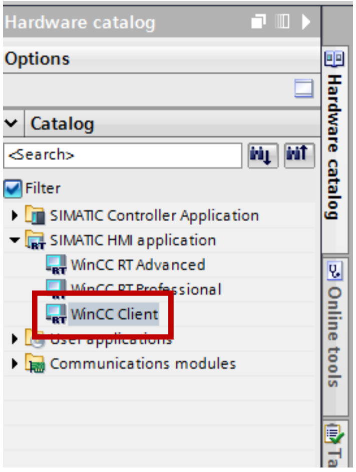
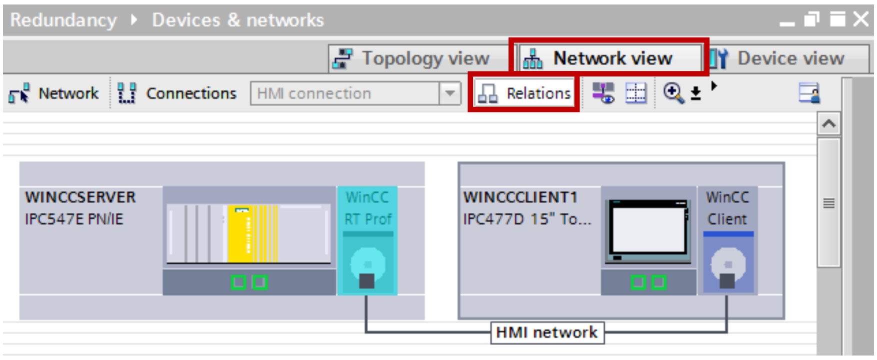
No.	Action
1.	Start the installation setup "WinCC Runtime Professional".
2.	Select the installation language.
3.	Select the languages to be installed.
4.	Select the "SIMATIC WinCC Runtime Client V13.0" component. The components "Microsoft SQL Server 2008 R2 Express Edition SP2" and "Automation License Manager" are selected automatically.  SIMATIC WinCC Runtime Professional - Setup Welcome to WinCC Runtime Professional V13.0 Please select the product features you want to install components which are already installed, they will be ☐ SIMATIC WinCC Runtime Professional V13.0 ☑ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ☐ SIMATIC WinCC Datamonitor ☐ SIMATIC Logon ☐ Tools ☐ Microsoft SQL Server 2008 R2 Standard Edition SP2 ☑ Microsoft SQL Server 2008 R2 Express Edition SP2 ☑ Automation License Manager Operator station for multi-user applications with WinCC Runtime Hard Disk Drive space: Drive C:\ Size 100,0GB Available 87,5GB Required 3,7GB Temp 1,0GE Target directory: C:\Program Files\Siemens\Automation SIEMENS Totally Integra General settings Configuration Install Overview Modify system System configuration Summary Minimal Typical < Back Ne
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	Transfer the license "SIMATIC WinCC Client for Runtime Professional" from the license data carrier to the WinCC client.

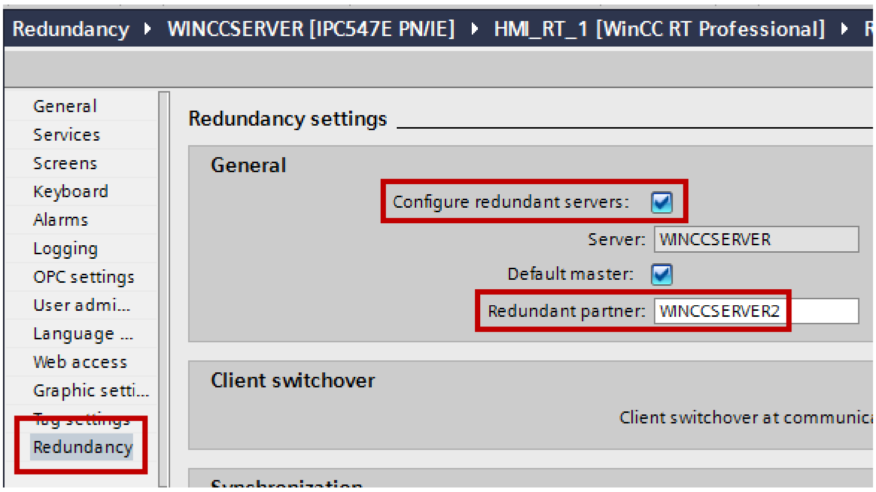
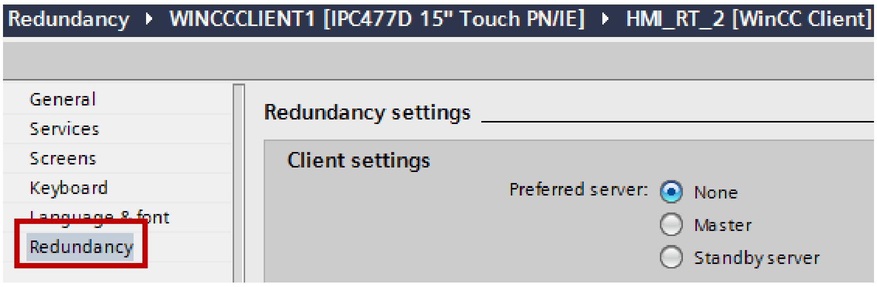
5.3.2 Project engineering

Table 5-7

No.	Action
1.	Open WinCC (TIA Portal) on the programmer and create a new project.
2.	Add a WinCC server (IPC547E) and the WinCC clients (IPC477D).  Add new device Device name: PC-System_1 Device: IPC547E PN/IE Order no.: 6AG4104-3xxxx-xxxx Version: Description: SIMATIC IPC547E; 2x Gigabit Ethernet; 7x PC slots ☑ Open device view Controllers HMI PC systems PC systems PC general Industrial PCs SIMATIC Box PC SIMATIC Panel PC SIMATIC Rack PC PC 547B IPC547C IPC547D IPC547E IPC547E PN/IE 6AG4104-3xxxx-xxxx IPC647C IPC647D PC 847B IPC847C IPC847D SIMATIC S7 Embedded Controller SINUMERIK operator components SIMATIC Controller Application SIMATIC HMI application User applications OK Cancel
3.	Open the Device view of the WinCC server.  Project tree Devices Redundancy Add new device Devices & networks PC-System_1 [IPC547E PN/IE] Device configuration Online & diagnostics

No.	Action
4.	Enter the computer name of the WinCC server set under Windows in the "Name" and "Computer name" fields.  Redundancy ▸ WINCCSERVER [IPC547E PN/IE] Topology view Network view Device view WINCCSERVER 1 2 IPC547E PN/IE Device data IPC547E PN/IE [IP... Properties Info Diagnostics General IO tags System constants Texts General IE_CP_1 IE_CP_2 XDB config... General Change device/version Name: WINCCSERVER Device type: IPC547E PN/IE Computer name: WINCCSERVER
5.	Add "WinCC RT Professional" via "Hardware catalog > SIMATIC HMI Application".  Hardware catalog Options Catalog ☑ Filter SIMATIC Controller Application SIMATIC HMI application WinCC RT Advanced WinCC RT Professional WinCC Client User applications Communications modules
6.	Open the Device view of the WinCC client.

No.	Action
7.	Enter the computer name of the WinCC client set under Windows in the "Name" and "Computer name" fields.  General Name: WINCCCLIENT1 Change device/version Device type: IPC477D 15" Touch PN/IE Computer name: WINCCCLIENT1
8.	Add "WinCC Client" via "Hardware catalog > SIMATIC HMI Application".  Hardware catalog Options Catalog <Search> Filter SIMATIC Controller Application SIMATIC HMI application WinCC RT Advanced WinCC RT Professional WinCC Client User applications Communications modules Hardware catalog Online tools Ta
9.	Perform steps 6-8 for the other WinCC clients, too.
10.	Change to the Network view and activate the "Relations" field. Create an HMI relation between the WinCC server and each WinCC client using drag and drop.  Redundancy ▸ Devices & networks Topology view Network view Device view Network Connections HMI connection Relations WINCCSERVER IPC547E PN/IE WinCC RT Prof WINCCCLIENT1 IPC477D 15" To... WinCC Client HMI network

No.	Action
11.	Open the runtime settings of the WinCC server. Open the "Redundancy" item. Check the "Configure redundant servers" check box. Check the "Default master" check box if this WinCC server is to be used as default master. Enter the computer name of the second WinCC server at "Redundant partner". Separate project engineering of the redundant partner is not required. When loading the WinCC project, it is automatically transferred to both WinCC servers. Configure the synchronization settings according to your requirements.  Redundancy ▸ WINCCSERVER [IPC547E PN/IE] ▸ HMI_RT_1 [WinCC RT Professional] ▸ General Services Screens Keyboard Alarms Logging OPC settings User admi... Language ... Web access Graphic setti... Tag settings Redundancy Redundancy settings General Client switchover Client switchover at communic Synchronization Configure redundant servers: ☑ Server: WINCCSERVER Default master: ☑ Redundant partner: WINCCSERVER2
12.	Create the users and user groups under "IPC 547E > WinCC RT Professional > User administration". Grant the authorizations to the user groups. To activate the WinCC project on the WinCC client, the user requires the authorization "Enable remote control" (number 1000). With this authorization, the user can remotely activate/deactivate also the runtime on the WinCC server.
13.	Complete project engineering of the WinCC server (screens, runtime settings, etc.).
14.	Open the runtime settings of the WinCC client. Open the "Redundancy" item. Define whether the WinCC client is to connect preferably with the master or standby server.  Redundancy ▸ WINCCCLIENT1 [IPC477D 15" Touch PN/IE] ▸ HMI_RT_2 [WinCC Client] General Services Screens Keyboard Language & font Redundancy Redundancy settings Client settings Preferred server: ● None ○ Master ○ Standby server Define the remaining configuration (e.g., start screen, services, properties of the runtime window).
15.	Transfer the project to the WinCC server. To this end, click the "Download to device" button and navigate to the network folder released for the WinCC projects on the WinCC server (by default: "WinCCprojects"). Project engineering is automatically loaded to the redundant partner, too. If you have problems in loading a WinCC server, please regard the notes in \5\ of the References.

Redundancy tags

For the evaluation of the status of the redundant servers, the following system tags are provided in project engineering:

Table 5-8

Name	Description
@RM_MASTER	1 for server = master server 0 for server = standby server With this tag you can manually define which server is assigned the "Master" status.
@RM_MASTER_NAME	Name of the master server
@RM_SERVER_NAME	Name of the server

5.3.3 Further settings

Operating system settings

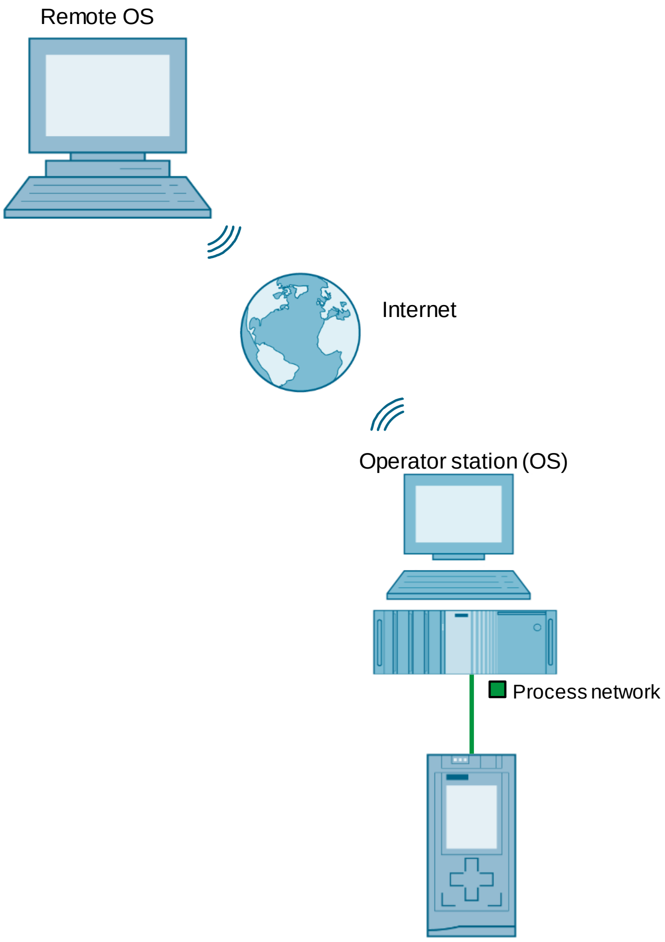
- On both WinCC servers and the WinCC clients, the same user with the same password must be used.
- This user must be a member of the "SIMATIC HMI" group and at least have the rights of the "Main user".
- The network must be a home or workplace network.

6 Web Access

6.1 Task

Overview

Figure 6-1



Description

The local SCADA system is designed like one of the previously described scenarios. In addition, the plant is to be monitored through a remote station via the Intranet or Internet.

6.2 Solution

6.2.1 Functional principle

To operate and monitor a WinCC project via the Intranet/Internet, you use the WinCC WebNavigator option.

The functionality of WinCC WebNavigator can easily be implemented in an existing WinCC project. The WebNavigator clients are integrated into the local user administration. If necessary, the authorizations can be selected in such a way that the WebNavigator client can only monitor the WinCC project. On a WebNavigator client, only those screens are displayed that are released for web access and published on the WebNavigator server.

To this end, the WinCC WebNavigator server is installed on a WinCC single-user system or WinCC server. At the operator stations, WinCC WebNavigator Client is installed. They can access the project via the Internet Explorer or WinCCViewer RT.

Access can also be gained via terminal services so that no WinCC installation is required at the operator stations. Further information on this topic is available in \4\.

Licensing takes place on the WebNavigator server. There, the maximum number of WebNavigator clients connected simultaneously is licensed. For that, only the number of WebNavigator clients currently connected simultaneously is evaluated. It is possible to access a WebNavigator server successively with any number of different WebNavigator clients. The WebNavigator clients do not need separate licenses.

Additionally, you can use a WebNavigator diagnostics client. In this process, no additional WebNavigator server license is occupied. Licensing takes place on the web diagnostics client. Thus, you can always access the WebNavigator server, even if the licensed number of WebNavigator clients has already been reached. This process is recommended if you want to access several different WinCC systems or WebNavigator servers.

To ensure a higher degree of security, protect the system with a firewall. By using the WinCCViewer RT, you can prevent the user from accessing the Internet and protect the system better against viruses and trojans. By separating the WinCC server and WebNavigator server, you can additionally increase security and at the same time achieve higher plant availability.

Advantages

- Operator control and monitoring over great distances
- Fast update rate due to event-driven communication
- Increased security and availability due to separation of WinCC server and web server
- Granting of access rights with plant-wide user administration

6.2.2 Hardware and software components

Hardware components

Table 6-1

Component	No.	Article number	Note
Programmer, e.g., SIMATIC FIELD PG M4	1	6ES7716-2CA10-0CD3	Engineering station
SIMATIC IPC547E	1	6AG4104-3HA34-0BX0	WinCC WebNavigator server 19” rack PC, optionally available as tower
SIMATIC IPC277D	1	6AV7881-3AA00-2DA0	WinCC WebNavigator client

Software components

Table 6-2

Component	No.	Article number	Note
SIMATIC WinCC Professional	1	e.g.: 6AV2103-0DA03-0AA5	For installation on the ES
SIMATIC WinCC Runtime Professional	1	e.g.: 6AV2105-0DA03-0AA0	For installation on the OS

Licenses

Table 6-3

Component	No.	Article number	Note
SIMATIC WinCC Professional	1		License included in "SIMATIC WinCC Professional" software
SIMATIC WinCC Runtime Professional	1		License included in "SIMATIC WinCC Runtime Professional" software
SIMATIC WinCC WebNavigator	1	e.g.: 6AV2107-0KD00-0BB0	License dependent on number of connected clients (see Functional principle)
Alternatively, WinCC WebDiagnostics Client	1	6AV2107-0KT00-0BB0	

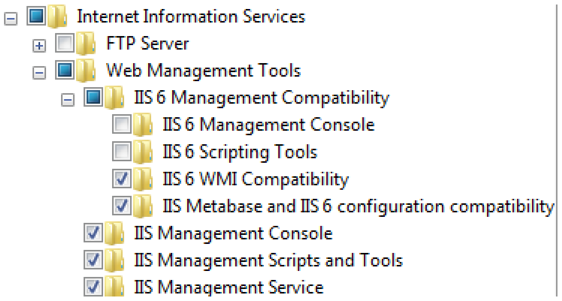
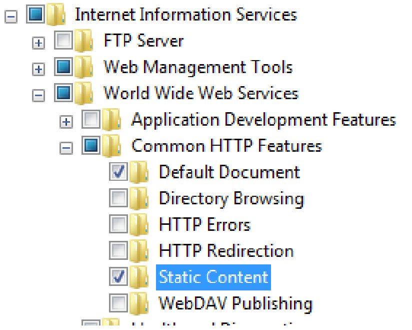
6.3 Procedure

6.3.1 Installation

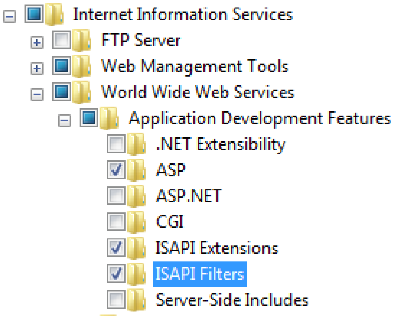
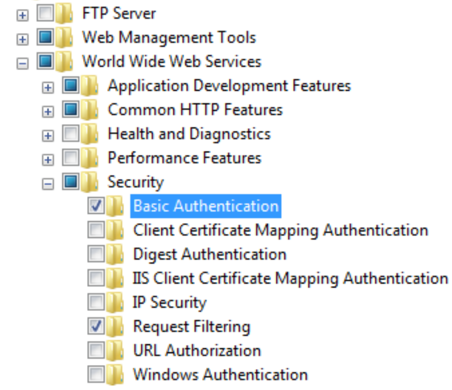
WebNavigator server

Table 6-4

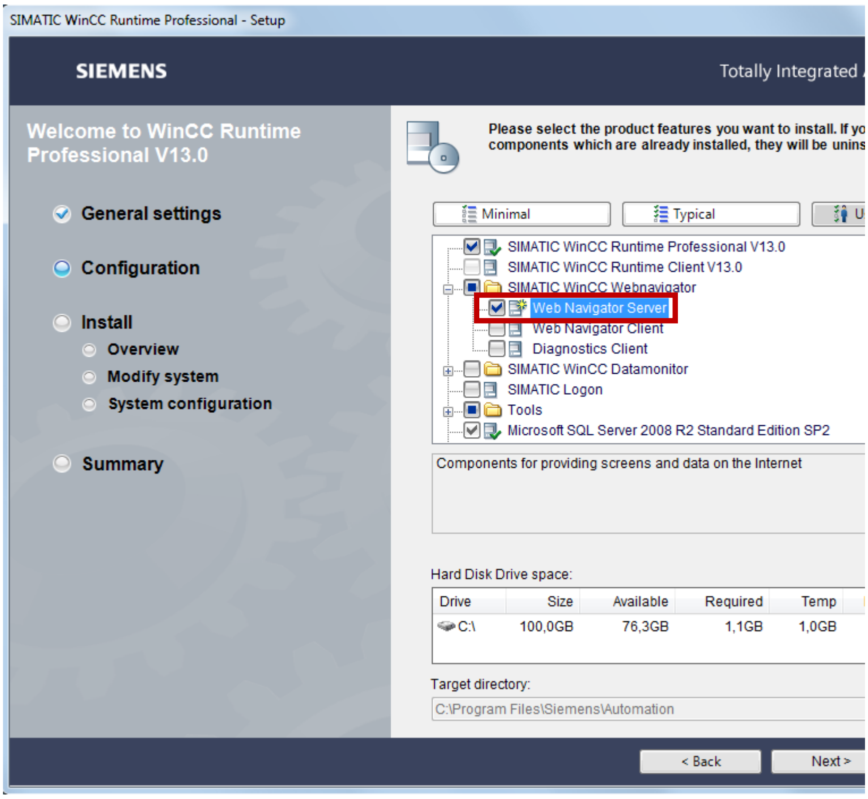
No.	Action
1.	**Windows 7** Open the control panel via "Start > Control Panel". Click on the "Programs" category or the "Programs and Features" setting. Click on "Turn Windows features on or off". Activate the components stated under 2. **Windows Server 2008** In the Server Manager, Roles Summary, click on "Add roles". Select the "Web server (IIS)" entry under "Server Roles". Select the components stated under 2. under "Role Services".

2.	• Web Management Tools:
	IIS Management Service, IIS Management Console, IIS Management Scripts and Tools, IIS Metabase and IIS 6 configuration compatibility, IIS 6 WMI Compatibility
	
	⊟ ▣ Internet Information Services
	  ⊞ ☐ FTP Server
	  ⊟ ▣ Web Management Tools
	    ⊟ ▣ IIS 6 Management Compatibility
	      ☐ IIS 6 Management Console
	      ☐ IIS 6 Scripting Tools
	      ☑ IIS 6 WMI Compatibility
	      ☑ IIS Metabase and IIS 6 configuration compatibility
	    ☑ IIS Management Console
	    ☑ IIS Management Scripts and Tools
	    ☑ IIS Management Service
	• World Wide Web Services > Common HTTP Features:
	Default Document, Static Content
	
	⊟ ▣ Internet Information Services
	  ⊞ ☐ FTP Server
	  ⊞ ▣ Web Management Tools
	  ⊟ ▣ World Wide Web Services
	    ⊞ ☐ Application Development Features
	    ⊟ ▣ Common HTTP Features
	      ☑ Default Document
	      ☐ Directory Browsing
	      ☐ HTTP Errors
	      ☐ HTTP Redirection
	      ☑ Static Content
	      ☐ WebDAV Publishing

6.3 Procedure

No.	Action
	- World Wide Web Services > Application Development Features: ASP, ISAPI Extensions, ISAPI Filters  ▣ Internet Information Services ☐ FTP Server ▣ Web Management Tools ▣ World Wide Web Services ▣ Application Development Features ☐ .NET Extensibility ☑ ASP ☐ ASP.NET ☐ CGI ☑ ISAPI Extensions ☑ ISAPI Filters ☐ Server-Side Includes - World Wide Web Services > Security Request Filtering, Basic Authentication  ▣ Internet Information Services ☐ FTP Server ▣ Web Management Tools ▣ World Wide Web Services ▣ Application Development Features ▣ Common HTTP Features ☐ Health and Diagnostics ☐ Performance Features ▣ Security ☑ Basic Authentication ☐ Client Certificate Mapping Authentication ☐ Digest Authentication ☐ IIS Client Certificate Mapping Authentication ☐ IP Security ☑ Request Filtering ☐ URL Authorization ☐ Windows Authentication
3.	Start the installation setup "WinCC Runtime Professional" on the WebNavigator server.
4.	Select the installation language and read the installation and product information.
5.	Select the "Modify/Upgrade" option.
6.	Select the languages to be installed.

No.	Action

7.	Select the "Web Navigator Server" component in addition to the preselected components. Do not deselect the preselected components as they would then be uninstalled.
	
	 SIMATIC WinCC Runtime Professional - Setup
	SIEMENS
	Totally Integrated
	Welcome to WinCC Runtime Professional V13.0
	General settings
	Configuration
	Install
	Overview
	Modify system
	System configuration
	Summary
	Minimal
	Typical
	U
	< Back
	Next >
	Please select the product features you want to install. If yo components which are already installed, they will be unins
	☑ SIMATIC WinCC Runtime Professional V13.0
	☐ SIMATIC WinCC Runtime Client V13.0
	■ SIMATIC WinCC Webnavigator
	  ☑ Web Navigator Server
	  ☐ Web Navigator Client
	  ☐ Diagnostics Client
	☐ SIMATIC WinCC Datamonitor
	☐ SIMATIC Logon
	■ Tools
	☑ Microsoft SQL Server 2008 R2 Standard Edition SP2
	Components for providing screens and data on the Internet
	Hard Disk Drive space:
	Drive: C:\ Size: 100,0GB Available: 76,3GB Required: 1,1GB Temp: 1,0GB
	Target directory:
	C:\Program Files\Siemens\Automation
	If the check box is displayed grayed out, installation is not possible. In this case, click on the component. In the text box below the components, the reason why installation is not possible is displayed (e.g., IIS services not activated).

8.	Read and accept the license conditions and security information.
9.	Read and accept the security settings. Start the installation.
10.	Transfer the license "SIMATIC WinCC WebNavigator" from the license data carrier to the WebNavigator server.

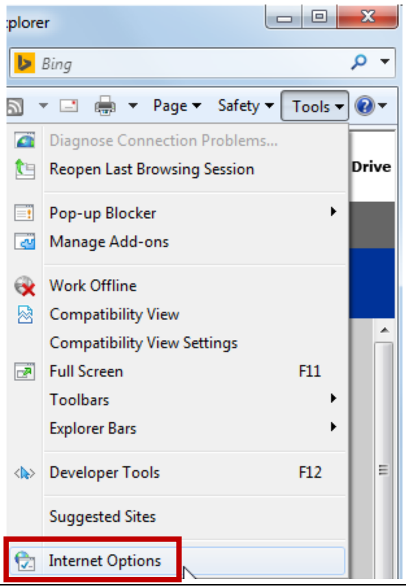
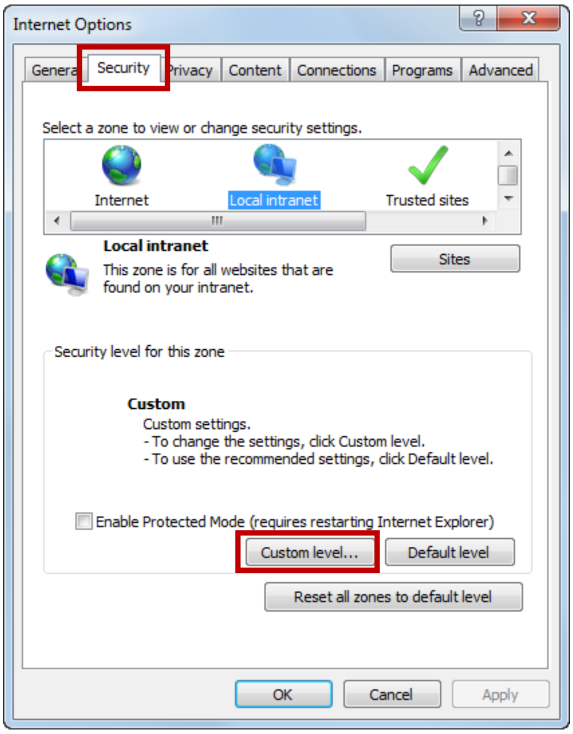
WebNavigator client / web diagnostics client

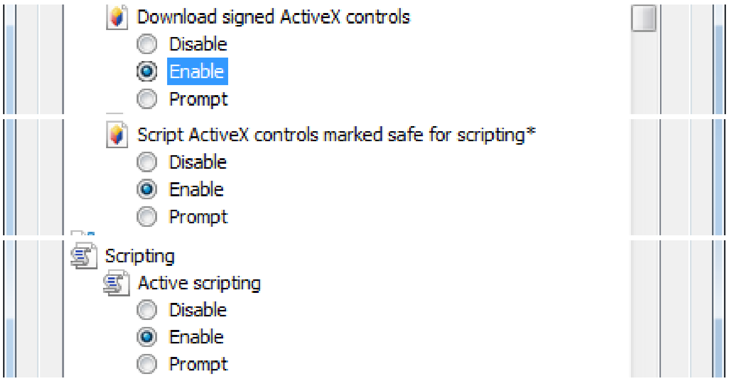
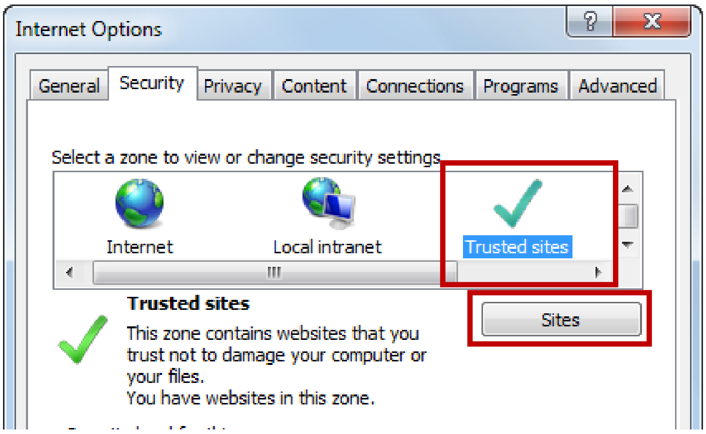
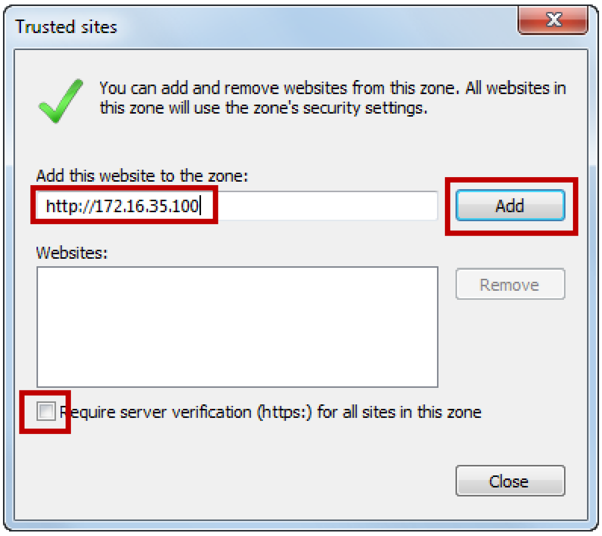
You can install the WebNavigator client either via the WinCC Runtime Professional installation medium or via the Intranet/Internet. The web diagnostics client is installed via the WinCC Runtime Professional installation medium.

Regardless of the setup type, if you want to establish the connection to the WebNavigator server via the Internet Explorer, you have to adapt some settings in the Internet Explorer.

Adapting settings in the Internet Explorer

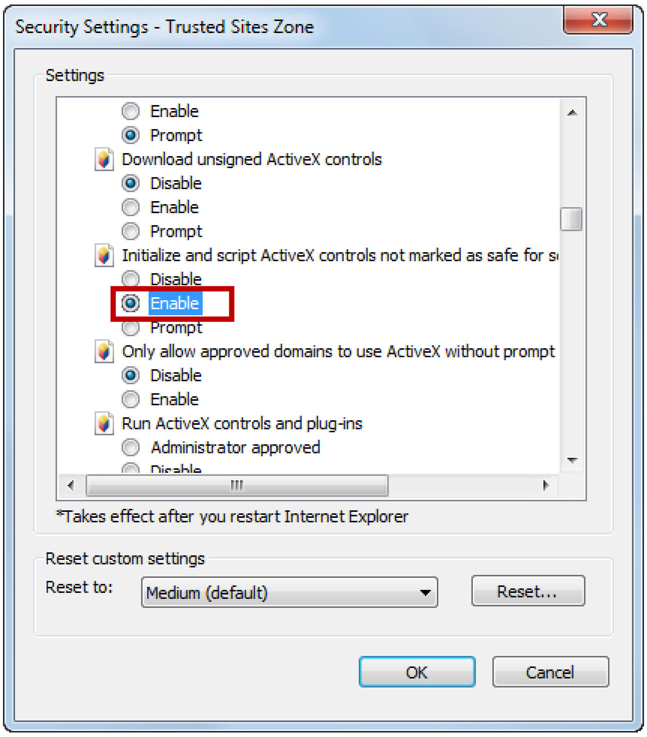
Table 6-5

No.	Action
1.	Start the Internet Explorer. Click on "Tools > Internet Options".  plorer Bing Page Safety Tools Diagnose Connection Problems... Reopen Last Browsing Session Pop-up Blocker Manage Add-ons Work Offline Compatibility View Compatibility View Settings Full Screen F11 Toolbars Explorer Bars Developer Tools F12 Suggested Sites Internet Options Drive
2.	Change to the "Security" tab and select the relevant zone, e.g., "Local intranet". Click the "Custom level..." button.  Internet Options General Security Privacy Content Connections Programs Advanced Internet Local intranet Trusted sites Sites Custom level... Default level Reset all zones to default level OK Cancel Apply Select a zone to view or change security settings. **Local intranet** This zone is for all websites that are found on your intranet. Security level for this zone **Custom** Custom settings. - To change the settings, click Custom level. - To use the recommended settings, click Default level. ☐ Enable Protected Mode (requires restarting Internet Explorer)

No.	Action
3.	Enable the options "Script ActiveX controls marked safe for scripting", "Download signed ActiveX controls", and "Active scripting".  Download signed ActiveX controls ○ Disable ● Enable ○ Prompt Script ActiveX controls marked safe for scripting* ○ Disable ● Enable ○ Prompt Scripting Active scripting ○ Disable ● Enable ○ Prompt Save the settings with "OK" and confirm the subsequent dialog.
4.	Click on the "Trusted sites" zone and click the "Sites" button.  Internet Options General Security Privacy Content Connections Programs Advanced Internet Local intranet Trusted sites Sites Select a zone to view or change security settings. **Trusted sites** This zone contains websites that you trust not to damage your computer or your files. You have websites in this zone.
5.	Enter the address of the WebNavigator server, uncheck the "Require server verification (https:) for all sites in this zone" check box, and click on "Add".  Trusted sites Add Remove Close You can add and remove websites from this zone. All websites in this zone will use the zone's security settings. Add this website to the zone: http://172.16.35.100 Websites: ☐ Require server verification (https:) for all sites in this zone Close the dialog.

<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>6.</td><td>

Click on "Custom level..." and enable "Initialize and script ActiveX controls not marked as safe for scripting".



Security Settings - Trusted Sites Zone

Settings

○ Enable
● Prompt
Download unsigned ActiveX controls
● Disable
○ Enable
○ Prompt
Initialize and script ActiveX controls not marked as safe for s
○ Disable
● Enable
○ Prompt
Only allow approved domains to use ActiveX without prompt
● Disable
○ Enable
Run ActiveX controls and plug-ins
○ Administrator approved
○ Disable

*Takes effect after you restart Internet Explorer

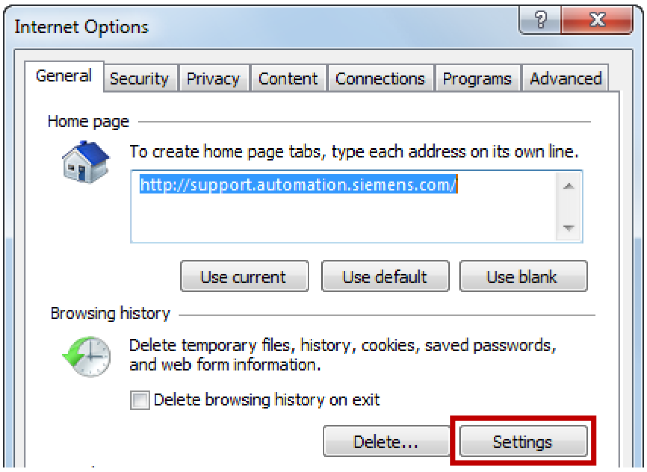
Reset custom settings
Reset to: Medium (default)

Reset...
OK
Cancel

Save the settings with "OK" and confirm the subsequent dialog.

</td></tr>
<tr><td>7.</td><td>

Change to the "General" tab. Click the "Settings" button under Browsing history.



Internet Options

General
Security
Privacy
Content
Connections
Programs
Advanced

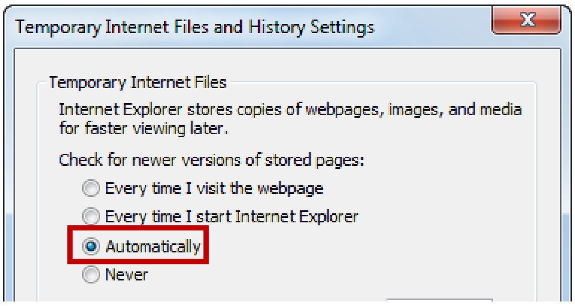
Home page
To create home page tabs, type each address on its own line.
http://support.automation.siemens.com/

Use current
Use default
Use blank

Browsing history
Delete temporary files, history, cookies, saved passwords, and web form information.
☐ Delete browsing history on exit

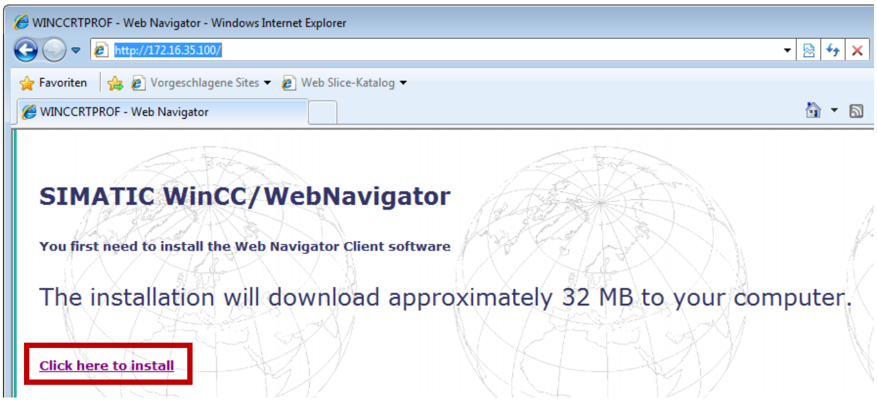
Delete...
Settings

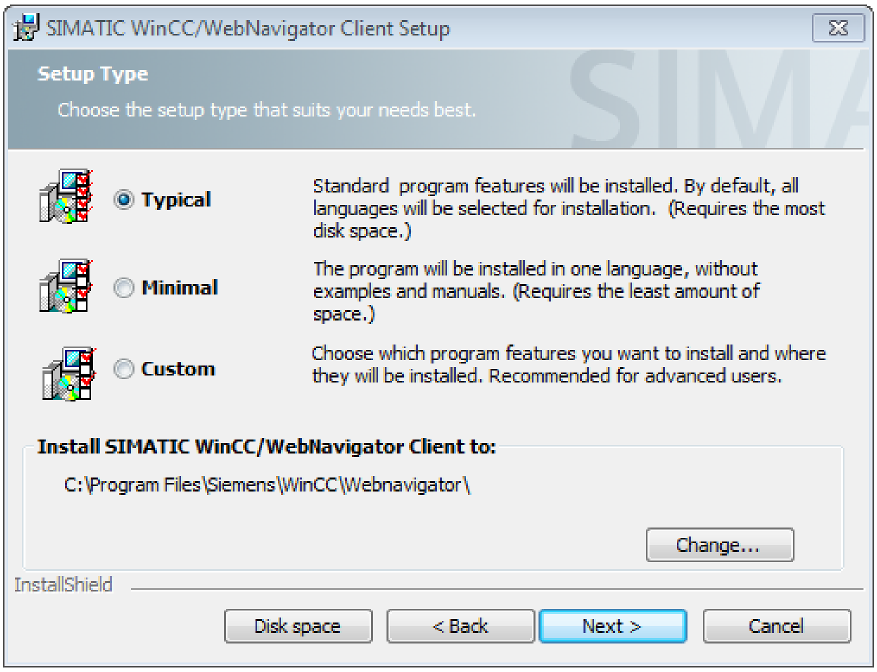
</td></tr>
</table>

No.	Action
8.	Under "Check for newer versions of stored pages", select the "Automatically" option.  Temporary Internet Files and History Settings Temporary Internet Files Internet Explorer stores copies of webpages, images, and media for faster viewing later. Check for newer versions of stored pages: ○ Every time I visit the webpage ○ Every time I start Internet Explorer ● Automatically ○ Never Close all opened dialogs.

Installation via the Intranet/Internet

Table 6-6

No.	Action
1.	To install the WebNavigator client via the Intranet/Internet, the WebNavigator server must already be active. First follow the instructions in section 6.3.2 Project engineering and then install the WebNavigator client.
2.	Open the Internet Explorer and enter the address of the WebNavigator server.
3.	Enter the user name and password of the web user.
4.	Click the "Click here to install" link.  WINCCRTPROF - Web Navigator - Windows Internet Explorer http://172.16.35.100/ Favoriten Vorgeschlagene Sites Web Slice-Katalog WINCCRTPROF - Web Navigator SIMATIC WinCC/WebNavigator You first need to install the Web Navigator Client software The installation will download approximately 32 MB to your computer. Click here to install Click the "Save" button and select a storage location for the installation file.
5.	Navigate to the installation file in the Windows Explorer and start setup with a double-click.
6.	Click the "Next" button.
7.	Read and accept the license conditions and security information.

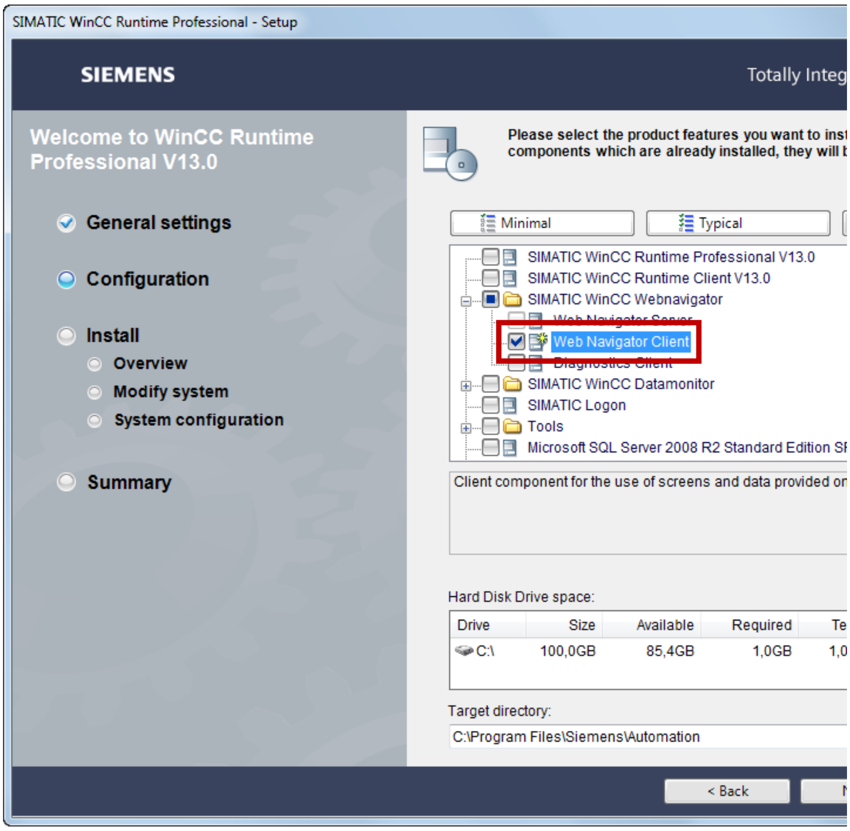
No.	Action
8.	Select the desired setup type.  SIMATIC WinCC/WebNavigator Client Setup **Setup Type** Choose the setup type that suits your needs best. ● **Typical** Standard program features will be installed. By default, all languages will be selected for installation. (Requires the most disk space.) ○ **Minimal** The program will be installed in one language, without examples and manuals. (Requires the least amount of space.) ○ **Custom** Choose which program features you want to install and where they will be installed. Recommended for advanced users. **Install SIMATIC WinCC/WebNavigator Client to:** C:\Program Files\Siemens\WinCC\Webnavigator\\ Change... InstallShield Disk space < Back Next > Cancel
9.	Select the language to be installed.
10.	Check the settings and click the "Install" button to start installation.

Installation via the WinCC Runtime Professional installation medium

Table 6-7

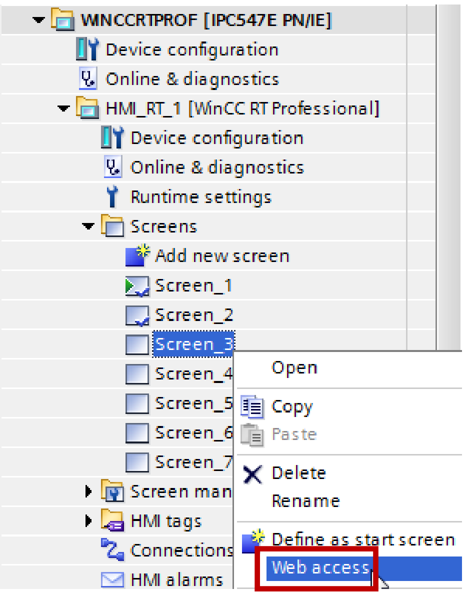
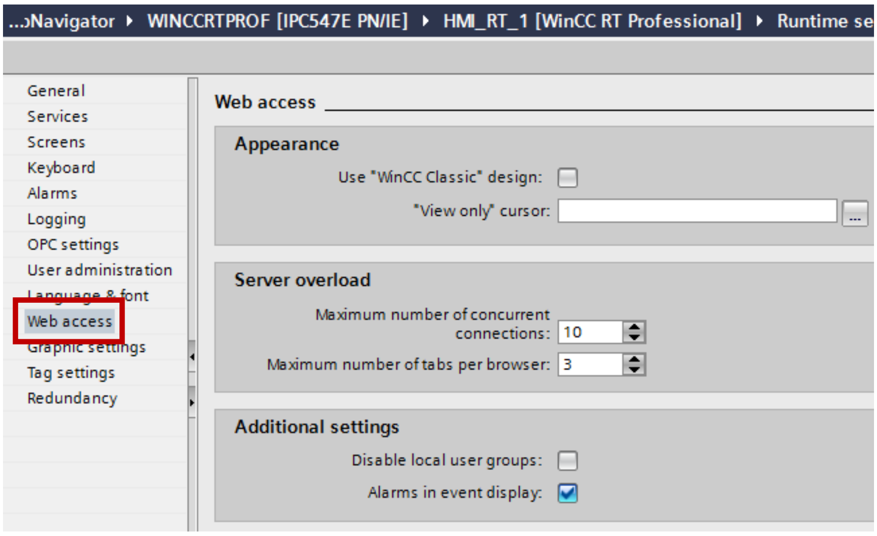
No.	Action
1.	Start the installation setup "WinCC Runtime Professional" on the WebNavigator client.
2.	Select the installation language and read the installation and product information.
3.	Select the languages to be installed.

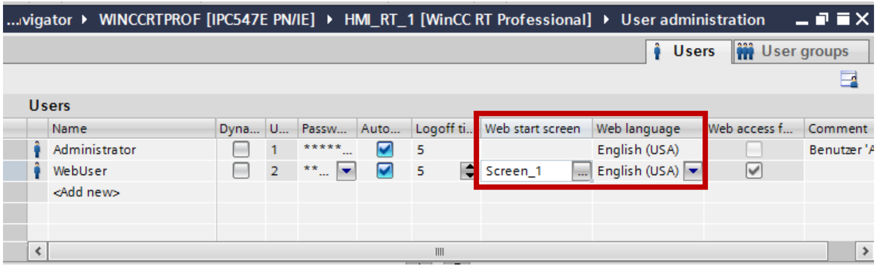
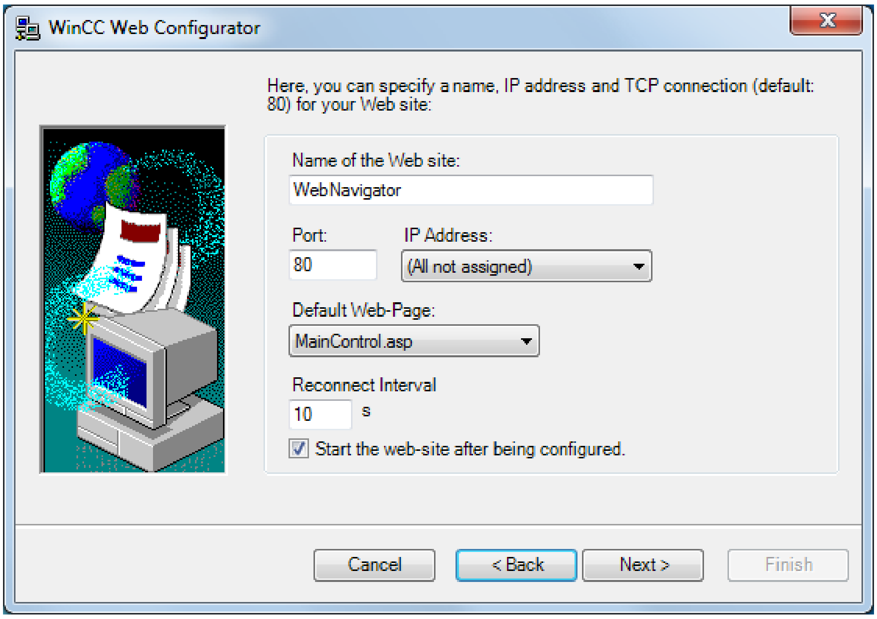
6.3 Procedure

No.	Action
4.	Select the "Web Navigator Client" or "Diagnostics Client" component.  SIMATIC WinCC Runtime Professional - Setup SIEMENS Totally Integ Welcome to WinCC Runtime Professional V13.0 General settings Configuration Install Overview Modify system System configuration Summary Please select the product features you want to inst components which are already installed, they will b Minimal Typical SIMATIC WinCC Runtime Professional V13.0 SIMATIC WinCC Runtime Client V13.0 SIMATIC WinCC Webnavigator Web Navigator Server Web Navigator Client Diagnostics Client SIMATIC WinCC Datamonitor SIMATIC Logon Tools Microsoft SQL Server 2008 R2 Standard Edition SP Client component for the use of screens and data provided on Hard Disk Drive space: Drive Size Available Required Te C:\ 100,0GB 85,4GB 1,0GB 1,0 Target directory: C:\Program Files\Siemens\Automation < Back
5.	Read and accept the license conditions and security information.
6.	Read and accept the security settings. Start the installation.
7.	If required, transfer the license "WinCC WebDiagnostics Client" from the license data carrier to the WebDiagnostics client.

6.3.2 Project engineering

Table 6-8

No.	Action
1.	Open an existing WinCC (TIA Portal) project on the programmer or create a new project as described in the previous chapters.
2.	Right-click on a screen that you want to release for web access and select "Web access" in the context menu.  WINCCRTPROF [IPC547E PN/IE] Device configuration Online & diagnostics HMI_RT_1 [WinCC RT Professional] Device configuration Online & diagnostics Runtime settings Screens Add new screen Screen_1 Screen_2 Screen_3 Screen_4 Screen_5 Screen_6 Screen_7 Screen man HMI tags Connections HMI alarms Open Copy Paste Delete Rename Define as start screen Web access You can also release all screens for web access. To this end, right-click to open the context menu of the "Screens" folder and then click on "Web access for all".
3.	Open the runtime settings of the WebNavigator server and configure the runtime behavior under "Web access".  ...Navigator ▸ WINCCRTPROF [IPC547E PN/IE] ▸ HMI_RT_1 [WinCC RT Professional] ▸ Runtime se General Services Screens Keyboard Alarms Logging OPC settings User administration Language & font Web access Graphic settings Tag settings Redundancy Web access Appearance Use "WinCC Classic" design: ☐ "View only" cursor: Server overload Maximum number of concurrent connections: 10 Maximum number of tabs per browser: 3 Additional settings Disable local user groups: ☐ Alarms in event display: ☑

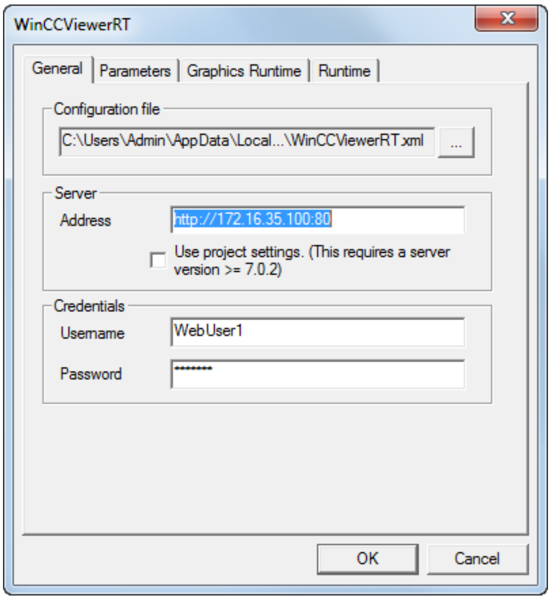
No.	Action
4.	Open the User administration and create the web users. Set the web start screen and web language for the respective users.  ...vigator ▸ WINCCRTPROF [IPC547E PN/IE] ▸ HMI_RT_1 [WinCC RT Professional] ▸ User administration Users Name | Dyna... | U... | Passw... | Auto... | Logoff ti... | Web start screen | Web language | Web access f... | Comment Administrator | ☐ | 1 | *****... | ☑ | 5 | | English (USA) | ☐ | Benutzer 'A WebUser | ☐ | 2 | **... | ☑ | 5 | Screen_1 | English (USA) | ☑ | <Add new>
5.	Assign the authorization "Web access – View only" (number 1002) if the web user must not operate the runtime project.
6.	Transfer the project to the WebNavigator server. To this end, click the "Download to device" button and navigate to the released network folder on the WebNavigator server. If you have problems in loading a WebNavigator server, please regard the notes in \5\ of the References.
7.	Start the WinCC WebConfigurator on the WebNavigator server via "Start > All Programs > Siemens Automation > Options and Tools > HMI Tools > WinCC WebConfigurator".
8.	Decide whether you want to add a new default web page or virtual directory to an existing web site.
9.	Assign a name to the web site. Define the port and IP address of the web site. If the WebNavigator server is to be available via the Intranet and Internet, select "All not assigned". Select the default web page. Define the time after which the WebNavigator client tries to reestablish the connection to the WebNavigator server in case of a connection failure.  WinCC Web Configurator Here, you can specify a name, IP address and TCP connection (default: 80) for your Web site: Name of the Web site: WebNavigator Port: 80 IP Address: (All not assigned) Default Web-Page: MainControl.asp Reconnect Interval 10 s ☑ Start the web-site after being configured. Click on "Next" if you have a firewall installed. Click on "Finish" and skip step 10 if you have no firewall installed.

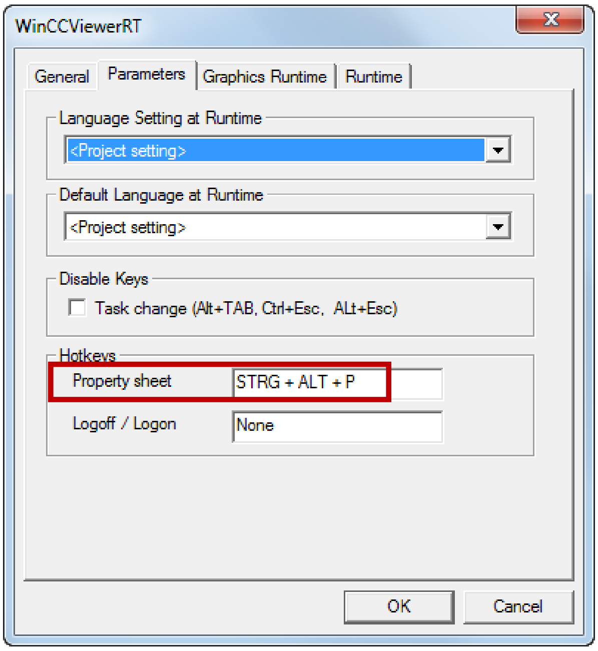
No.	Action
10.	Click the "Windows Firewall" button. Click on "Allow a program or feature through Windows Firewall". Click the "Change settings" button. Enable "Secure World Wide Web Services (HTTPS)" and "World Wide Web Services (HTTP)". Close the Windows dialogs. Click on "Finish" in the WinCC Web Configurator.
11.	Restart the WebNavigator server.
12.	Start the runtime of the WinCC project.

6.3.3 Working with the WebNavigator components

WinCCViewer RT

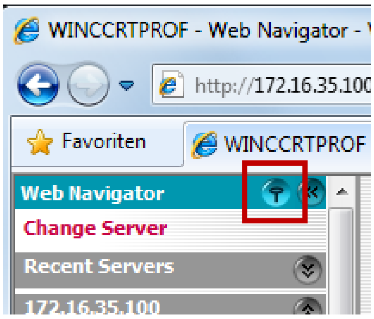
Table 6-9

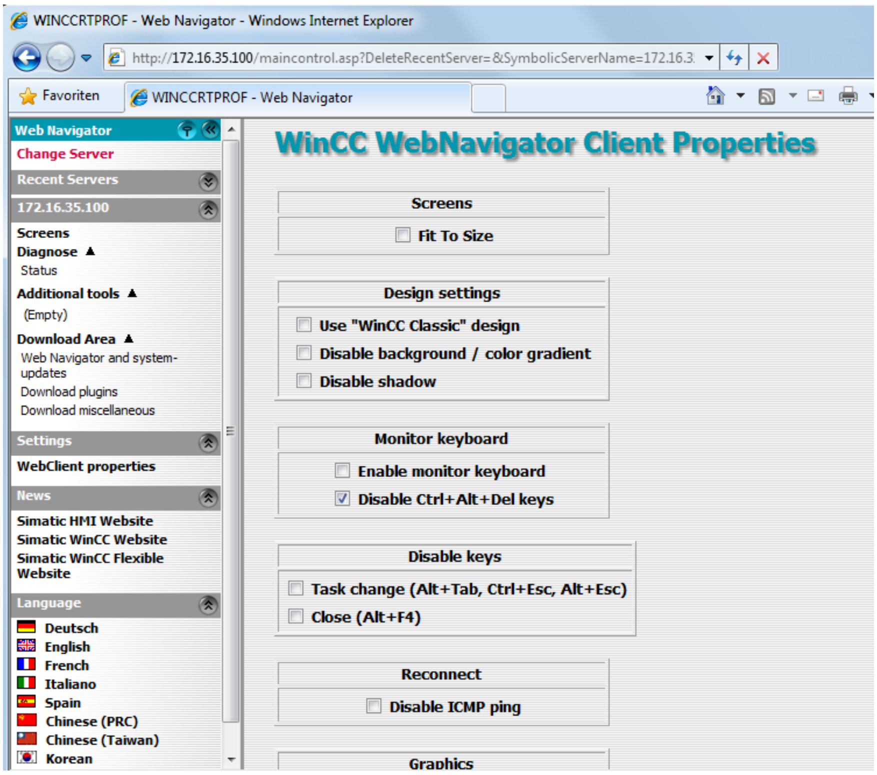
No.	Action
1.	Start the WinCC Viewer RT via "Start > All Programs > Siemens Automation > Options and Tools > HMI Tools > WinCCViewer RT".
2.	Enter the address of the WebNavigator server at "Address" in the format "http://IPaddress:port" or "http://servername". If you use the default port 80, this is not necessary. Enter the web user's data at "Username" and "Password".  Configuration file: C:\Users\Admin\AppData\Local...\WinCCViewerRT.xml Server Address: http://172.16.35.100:80 ☐ Use project settings. (This requires a server version >= 7.0.2) Credentials Username: WebUser1 Password: *******
3.	Define the other settings for the WebNavigator client, e.g., screen attributes, on the "Parameters", "Graphics Runtime", and "Runtime" tabs.
4.	Click on "OK" to apply the settings. The connection to the WebNavigator server is established.

No.	Action
5.	To change settings later, enter the hotkeys defined for the Property sheet on the "Parameters" tab.  WinCCViewerRT General Parameters Graphics Runtime Runtime Language Setting at Runtime <Project setting> Default Language at Runtime <Project setting> Disable Keys ☐ Task change (Alt+TAB, Ctrl+Esc, ALt+Esc) Hotkeys Property sheet STRG + ALT + P Logoff / Logon None OK Cancel

Internet Explorer

Table 6-10

No.	Action
1.	Open the Internet Explorer. Enter the address of the WebNavigator server in the address line of the Internet Explorer in the format "http://IPaddress:port" or "http://servername". If you use the default port 80, this is not necessary.
2.	Enter the user name and password of the web user.
3.	The connection to the WebNavigator server is established.
4.	To change the WebClient's properties or to load plugins, enter "http://servername/maincontrol.asp" in the address line of the Internet Explorer.
5.	Open the Web Navigator user interface by moving the mouse pointer over the bar highlighted in blue to the left of the Internet Explorer. Fix the Web Navigator user interface by clicking on the respective symbol.  WINCCRTPROF - Web Navigator - http://172.16.35.10 Favoriten WINCCRTPROF Web Navigator Change Server Recent Servers 172.16.35.100

No.	Action
6.	Change the settings according to your requirements.  **WinCC WebNavigator Client Properties** **Screens** ☐ Fit To Size **Design settings** ☐ Use "WinCC Classic" design ☐ Disable background / color gradient ☐ Disable shadow **Monitor keyboard** ☐ Enable monitor keyboard ☑ Disable Ctrl+Alt+Del keys **Disable keys** ☐ Task change (Alt+Tab, Ctrl+Esc, Alt+Esc) ☐ Close (Alt+F4) **Reconnect** ☐ Disable ICMP ping **Graphics**

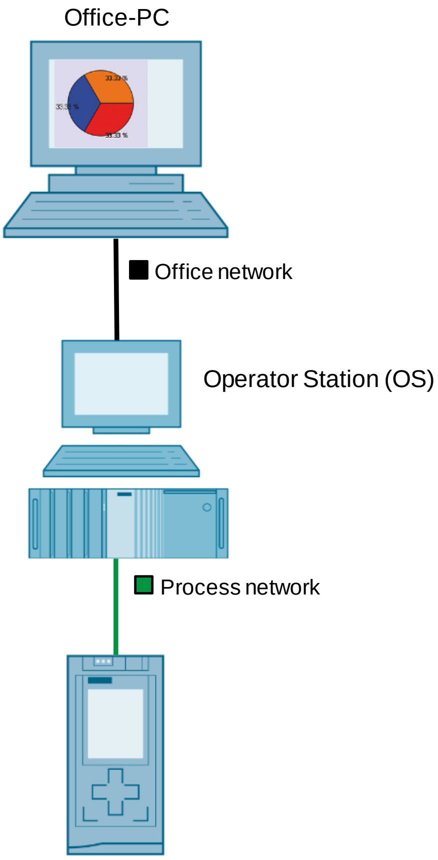
WINCCRTPROF - Web Navigator - Windows Internet Explorer
http://172.16.35.100/maincontrol.asp?DeleteRecentServer=&SymbolicServerName=172.16.3
Favoriten
WINCCRTPROF - Web Navigator
Web Navigator
Change Server
Recent Servers
172.16.35.100
Screens
Diagnose
Status
Additional tools
(Empty)
Download Area
Web Navigator and system-updates
Download plugins
Download miscellaneous
Settings
WebClient properties
News
Simatic HMI Website
Simatic WinCC Website
Simatic WinCC Flexible Website
Language
Deutsch
English
French
Italiano
Spain
Chinese (PRC)
Chinese (Taiwan)
Korean

7 Access Through Office PCs

7.1 Task

Overview

Figure 7-1


Office-PC
33.33 %
33.33 %
33.33 %
■ Office network
Operator Station (OS)
🟩 Process network

Description

The local SCADA system is designed like one of the previously described scenarios. Additionally, one or several office PC(s) is/are to generate, display, and analyze process states, statistics, or reports.

7.2 Solution

7.2.1 Functional principle

The WinCC DataMonitor option serves for the display, analysis, evaluation, and distribution of current and historical process data and messages. You can simply expand an existing WinCC Runtime Professional system by the WinCC DataMonitor function.

With the WinCCViewer RT, you can monitor the WinCC project via the Internet/Intranet. By using these so-called "View Only Clients", you increase the protection of plant and personnel, as unwanted remote process intervention is prevented.

Moreover, it is possible to monitor process data or screens via customer-configurable web pages, without the need for installation on the client PC.

The Microsoft Excel add-ins "Excel Workbook Wizard" and "Excel Workbook" facilitate the evaluation of, for example, production data, as the data are automatically stored in a Microsoft Excel workbook according to your requirements and are thus available for further processing.

Furthermore, you can create time- or event-controlled reports. These can be printed, saved in PDF format, or sent by e-mail to selected recipients.

Licensing takes place on the DataMonitor server. There, the maximum number of clients connected simultaneously is licensed. The clients are subdivided into two groups according to their function:

- Webcenter function group: Trends & Alarms, Webcenter, and Reports
- DataMonitor function group: WinCCViewerRT and Excel Workbooks

The table below shows how many clients can be used simultaneously dependent on the function group and number of licenses.

Table 7-1

License	Webcenter function group	DataMonitor function group
1 client	1	3
3 clients	3	6
10 clients	10	20
25 clients	25	50
50 clients	50	100

If you use the DataMonitor function group, log off from the Internet Explorer via the "Logout" button. If you close the Internet Explorer with the "Close" button, the license will only be released again after 20 minutes.

On the start page of the DataMonitor server, you can use the "?" button to display how many licenses of the DataMonitor function group are available at the maximum and how many are currently in use.

Advantages

- No additional engineering effort, as screens from the WinCC project are used directly
- Evaluation via centrally administrated templates for detailed analyses of the company processes, e.g., reports, statistics
- Information from the process can be compiled individually online at runtime and sent by e-mail to various persons
- User administration with user groups and individual access rights, e.g., to read, write, and create WebCenter pages

7.2.2 Hardware and software components

Hardware components

Table 7-2

Component	No.	Article number	Note
Programmer, e.g., SIMATIC FIELD PG M4	1	6ES7716-2CA10-0CD3	Engineering station
SIMATIC IPC547E	1	6AG4104-3HA34-0BX0	WinCC DataMonitor server 19" rack PC, optionally available as tower
SIMATIC IPC277D	1	6AV7881-3AA00-2DA0	WinCC DataMonitor client

Software components

Table 7-3

Component	No.	Article number	Note
SIMATIC WinCC Professional	1	e.g.: 6AV2103-0DA03-0AA5	For installation on the ES
SIMATIC WinCC Runtime Professional	1	e.g.: 6AV2105-0DA03-0AA0	For installation on the OS

Licenses

Table 7-4

Component	No.	Article number	Note
SIMATIC WinCC Professional	1		License included in "SIMATIC WinCC Professional" software
SIMATIC WinCC Runtime Professional	1		License included in "SIMATIC WinCC Runtime Professional" software
SIMATIC WinCC DataMonitor	1	e.g.: 6AV2107-0LD00-0BB0	License dependent on number of connected clients (see Functional principle)

7.3 Procedure

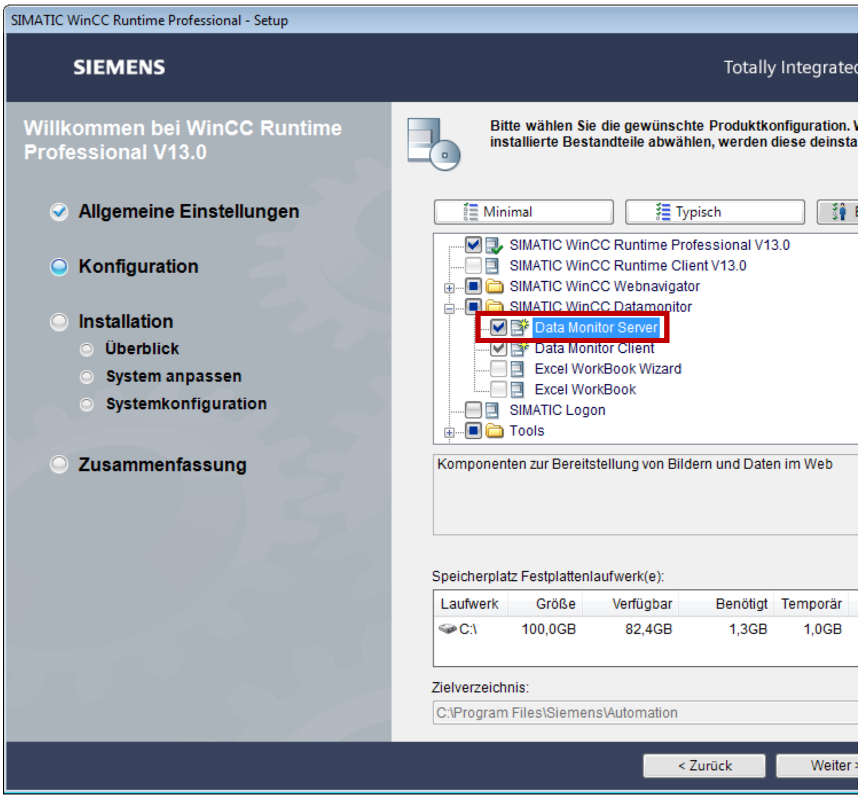
7.3.1 Installation

DataMonitor server

Table 7-5

No.	Action
1.	**Windows 7** Open the control panel via "Start > Control Panel". Click on the "Programs" category or the "Programs and Features" setting. Click on "Turn Windows features on or off". Activate the components stated under 2. **Windows Server 2008** In the Server Manager, Roles Summary, click on "Add roles". Select the "Web server (IIS)" entry under "Server Roles". Select the components stated under 2. under "Role Services".
2.	• Web Management Tools: IIS Management Service, IIS Management Console, IIS Management Scripts and Tools, IIS Metabase and IIS 6 configuration compatibility, IIS 6 WMI Compatibility • World Wide Web Services > Common HTTP Features: Default Document, Static Content • World Wide Web Services > Application Development Features: .NET Extensibility, ASP, ASP.NET, ISAPI Extensions, ISAPI Filters • World Wide Web Services > Security Request Filtering, Basic Authentication, Windows Authentication
3.	Start the installation setup "WinCC Runtime Professional" on the DataMonitor server.
4.	Select the installation language and read the installation and product information.
5.	Select the "Modify/Upgrade" option.
6.	Select the languages to be installed.

<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>7.</td><td>Select the "Data Monitor Server" component in addition to the preselected components. The components "Web Navigator Server" and "Data Monitor Client" are selected automatically. Do not deselect the preselected components as they would then be uninstalled.
If required, select the components "Excel WorkBook Wizard" or "Excel WorkBook".


SIMATIC WinCC Runtime Professional - Setup
SIEMENS
Totally Integrated
Willkommen bei WinCC Runtime Professional V13.0
Allgemeine Einstellungen
Konfiguration
Installation
Überblick
System anpassen
Systemkonfiguration
Zusammenfassung
Minimal
Typisch
☑ SIMATIC WinCC Runtime Professional V13.0
☐ SIMATIC WinCC Runtime Client V13.0
■ SIMATIC WinCC Webnavigator
■ SIMATIC WinCC Datamonitor
☑ Data Monitor Server
☑ Data Monitor Client
☐ Excel WorkBook Wizard
☐ Excel WorkBook
☐ SIMATIC Logon
■ Tools
Speicherplatz Festplattenlaufwerk(e):
Laufwerk | Größe | Verfügbar | Benötigt | Temporär
C:\ | 100,0GB | 82,4GB | 1,3GB | 1,0GB
Zielverzeichnis:
C:\Program Files\Siemens\Automation
< Zurück
Weiter

Bitte wählen Sie die gewünschte Produktkonfiguration. V
installierte Bestandteile abwählen, werden diese deinsta
Komponenten zur Bereitstellung von Bildern und Daten im Web

If the check box is displayed grayed out, installation is not possible. In this case, click on the component. In the text box below the components, the reason why installation is not possible is displayed (e.g., IIS services not activated).</td></tr>
<tr><td>8.</td><td>Read and accept the license conditions and security information.</td></tr>
<tr><td>9.</td><td>Read and accept the security settings. Start the installation.</td></tr>
<tr><td>10.</td><td>Transfer the license "SIMATIC WinCC DataMonitor" from the license data carrier to the DataMonitor server.</td></tr>
</table>

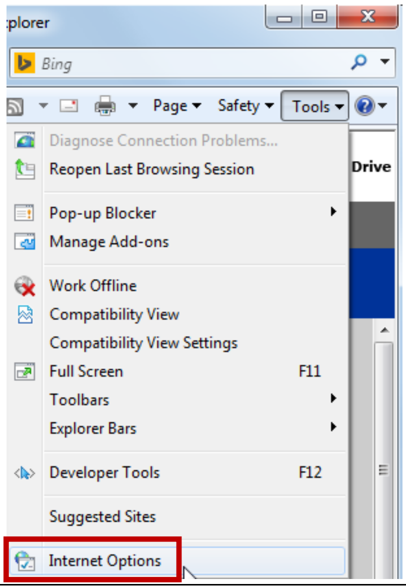
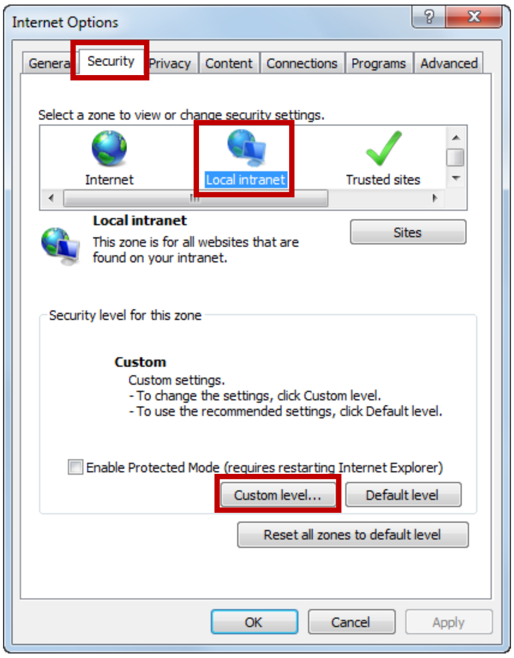
DataMonitor client

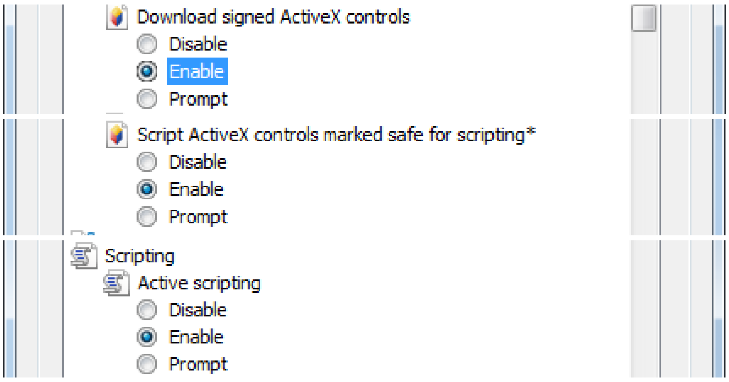
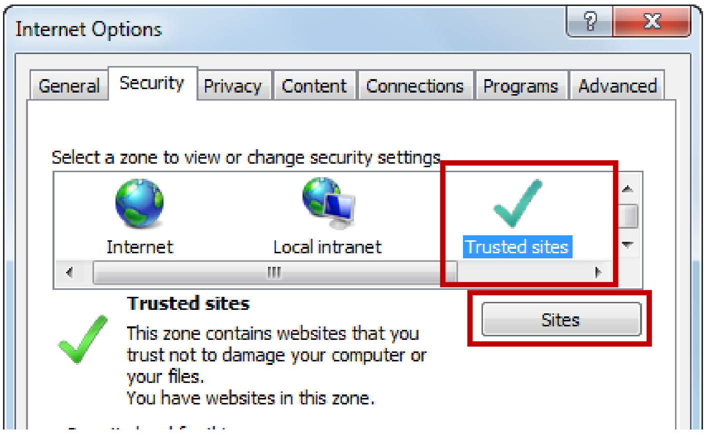
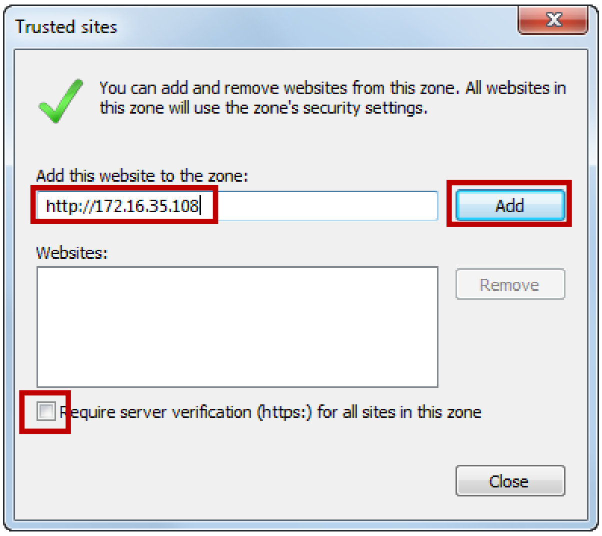
To use the "Webcenter" and "Trends & Alarms" functions, no installation on the DataMonitor client is required. To use the "WinCCViewer RT", "Reports", or "Excel Workbooks", installation is required. You can install the DataMonitor client either via the WinCC Runtime Professional installation medium or via the Intranet/Internet.

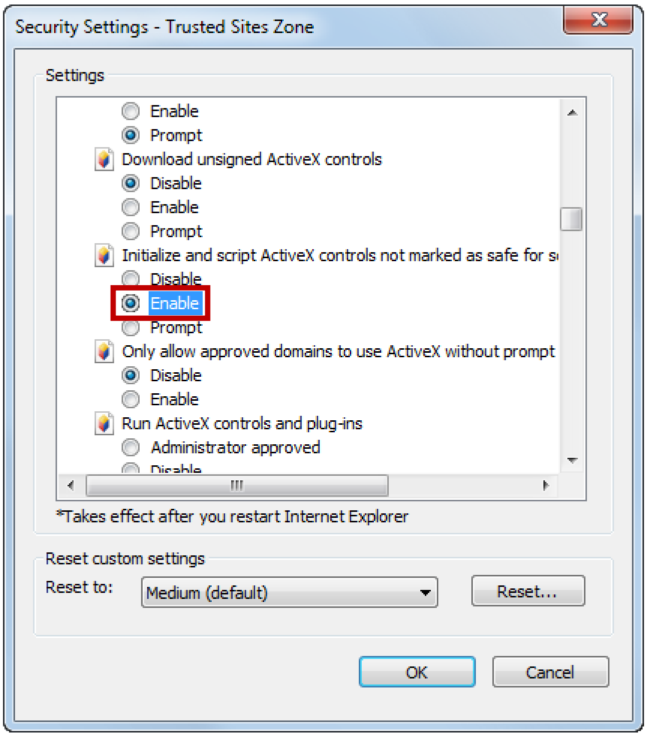
Regardless of the setup type, if you want to establish the connection to the DataMonitor server via the Internet Explorer, you have to adapt some settings in the Internet Explorer.

Adapting settings in the Internet Explorer

Table 7-6

No.	Action
1.	Start the Internet Explorer. Click on "Tools > Internet Options".  :plorer Bing Page Safety Tools Diagnose Connection Problems... Reopen Last Browsing Session Pop-up Blocker Manage Add-ons Work Offline Compatibility View Compatibility View Settings Full Screen F11 Toolbars Explorer Bars Developer Tools F12 Suggested Sites Internet Options Drive
2.	Change to the "Security" tab and select the relevant zone, e.g., "Local intranet". Click the "Custom level..." button.  Internet Options General Security Privacy Content Connections Programs Advanced Internet Local intranet Trusted sites Sites Custom level... Default level Reset all zones to default level OK Cancel Apply Select a zone to view or change security settings. **Local intranet** This zone is for all websites that are found on your intranet. Security level for this zone **Custom** Custom settings. - To change the settings, click Custom level. - To use the recommended settings, click Default level. ☐ Enable Protected Mode (requires restarting Internet Explorer)

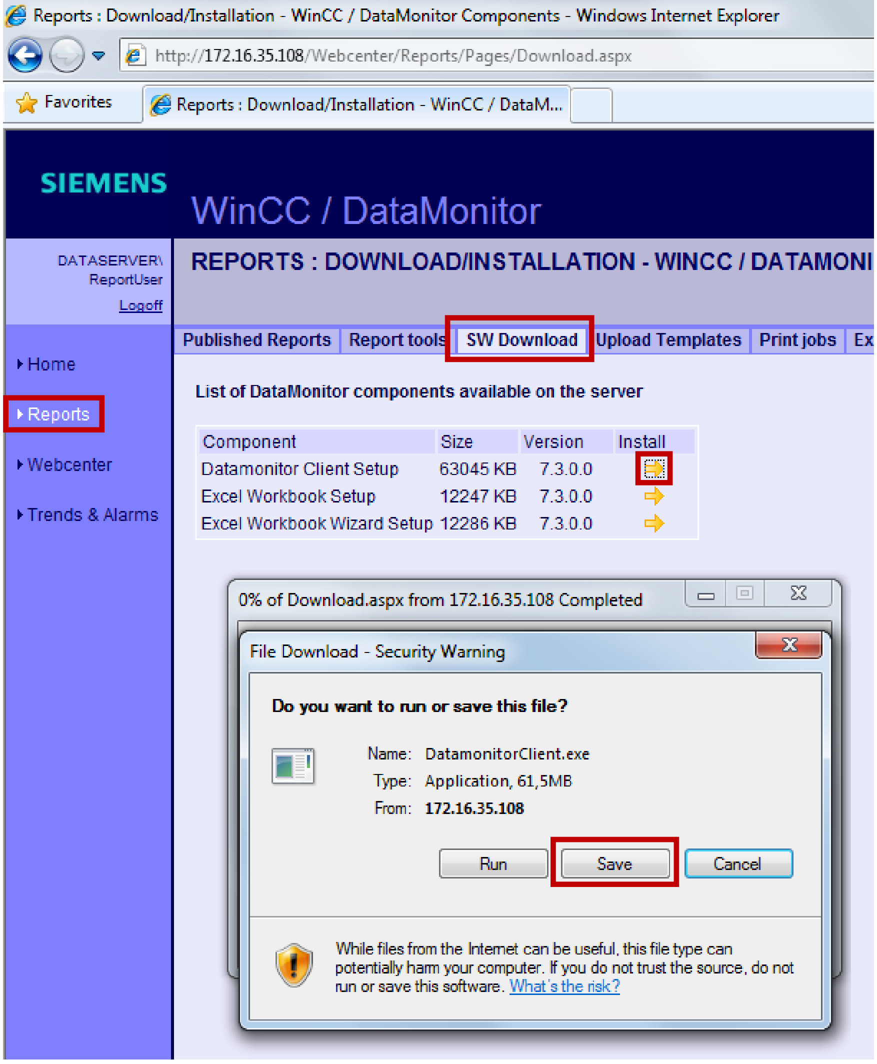
No.	Action
3.	Enable the options "Script ActiveX controls marked safe for scripting", "Download signed ActiveX controls", and "Active scripting".  Download signed ActiveX controls ○ Disable ● Enable ○ Prompt Script ActiveX controls marked safe for scripting* ○ Disable ● Enable ○ Prompt Scripting Active scripting ○ Disable ● Enable ○ Prompt Save the settings with "OK" and confirm the subsequent dialog.
4.	Click on the "Trusted sites" zone and then click the "Sites" button.  Internet Options General Security Privacy Content Connections Programs Advanced Internet Local intranet Trusted sites Sites Select a zone to view or change security settings. **Trusted sites** This zone contains websites that you trust not to damage your computer or your files. You have websites in this zone.
5.	Enter the address of the DataMonitor server, uncheck the "Require server verification (https:) for all sites in this zone" check box, and click on "Add".  Trusted sites Add Remove Close You can add and remove websites from this zone. All websites in this zone will use the zone's security settings. Add this website to the zone: http://172.16.35.108 Websites: ☐ Require server verification (https:) for all sites in this zone Close the dialog.

No.	Action
6.	Click on "Custom level..." and enable "Initialize and script ActiveX controls not marked as safe for scripting".  Security Settings - Trusted Sites Zone Settings *Takes effect after you restart Internet Explorer Reset custom settings Reset to: Medium (default) Reset... OK Cancel ○ Enable ● Prompt Download unsigned ActiveX controls ● Disable ○ Enable ○ Prompt Initialize and script ActiveX controls not marked as safe for s ○ Disable ● Enable ○ Prompt Only allow approved domains to use ActiveX without prompt ● Disable ○ Enable Run ActiveX controls and plug-ins ○ Administrator approved ○ Disable Save the settings with "OK" and confirm the subsequent dialog.

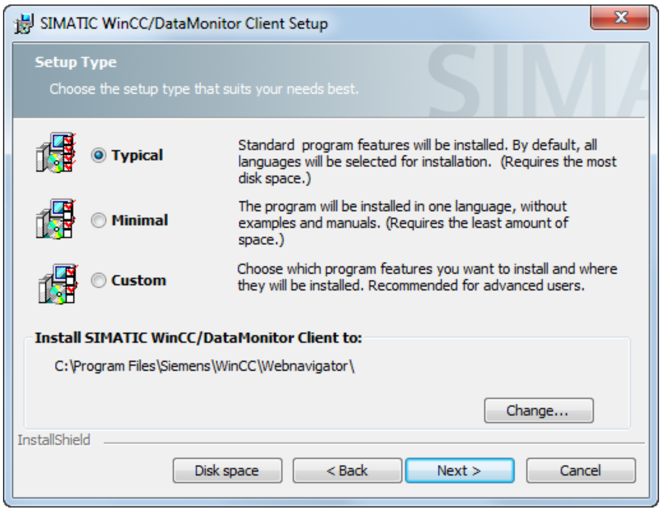
Installation via the Intranet/Internet

Table 7-7

No.	Action
1.	To install the DataMonitor client via the Intranet/Internet, the DataMonitor server must already be active. First follow the instructions in section 7.3.2 Project engineering and then install the DataMonitor client.
2.	Open the Internet Explorer and enter the address of the DataMonitor server.
3.	Enter the login information of a Windows user of the DataMonitor server with the rights "SIMATIC Report User" or "SIMATIC Report Administrators".

<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>4.</td><td>Open the "Reports > SW Download" site. Next to the relevant component (e.g., Datamonitor Client Setup), click on the symbol in the "Install" column and save the setup file.

Reports : Download/Installation - WinCC / DataMonitor Components - Windows Internet Explorer
http://172.16.35.108/Webcenter/Reports/Pages/Download.aspx
Favorites
Reports : Download/Installation - WinCC / DataM...
SIEMENS
WinCC / DataMonitor
DATASERVER\
ReportUser
Logoff
REPORTS : DOWNLOAD/INSTALLATION - WINCC / DATAMONI
Published Reports
Report tools
SW Download
Upload Templates
Print jobs
Ex
Home
Reports
Webcenter
Trends & Alarms
0% of Download.aspx from 172.16.35.108 Completed
File Download - Security Warning
Run
Save
Cancel

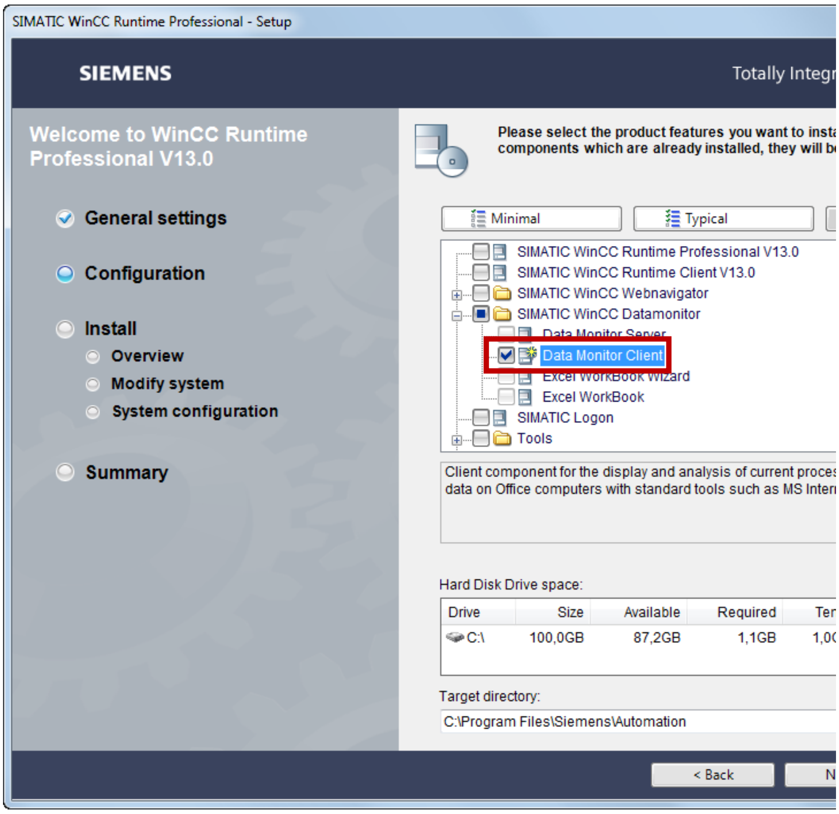
List of DataMonitor components available on the server
<table>
<tr><th>Component</th><th>Size</th><th>Version</th><th>Install</th></tr>
<tr><td>Datamonitor Client Setup</td><td>63045 KB</td><td>7.3.0.0</td><td>⇨</td></tr>
<tr><td>Excel Workbook Setup</td><td>12247 KB</td><td>7.3.0.0</td><td>⇨</td></tr>
<tr><td>Excel Workbook Wizard Setup</td><td>12286 KB</td><td>7.3.0.0</td><td>⇨</td></tr>
</table>
Do you want to run or save this file?
Name: DatamonitorClient.exe
Type: Application, 61,5MB
From: 172.16.35.108
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?
To install the "Excel Workbook" or "Excel Workbook Wizard" components, Microsoft Excel 2007 or higher is required.</td></tr>
<tr><td>5.</td><td>Navigate to the installation file in the Windows Explorer and start setup with a double-click.</td></tr>
<tr><td>6.</td><td>Read and accept the license conditions and security information.</td></tr>
</table>

No.	Action
7.	Select the desired setup type.  SIMATIC WinCC/DataMonitor Client Setup Setup Type Choose the setup type that suits your needs best. ● Typical: Standard program features will be installed. By default, all languages will be selected for installation. (Requires the most disk space.) ○ Minimal: The program will be installed in one language, without examples and manuals. (Requires the least amount of space.) ○ Custom: Choose which program features you want to install and where they will be installed. Recommended for advanced users. Install SIMATIC WinCC/DataMonitor Client to: C:\Program Files\Siemens\WinCC\Webnavigator\ SIMA Change... InstallShield Disk space < Back Next > Cancel
8.	Select the language to be installed.
9.	Check the settings and click the "Install" button to start installation.

Installation via the WinCC Runtime Professional installation medium

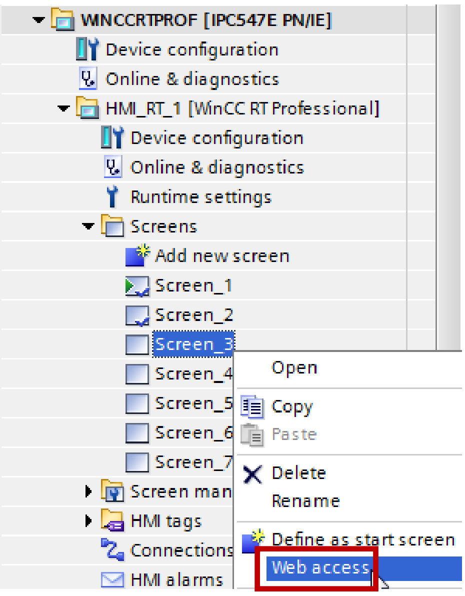
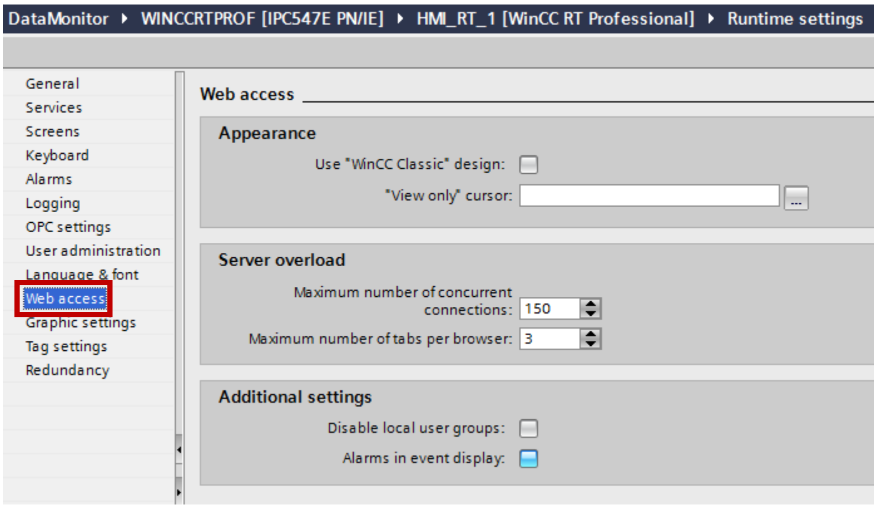
Table 7-8

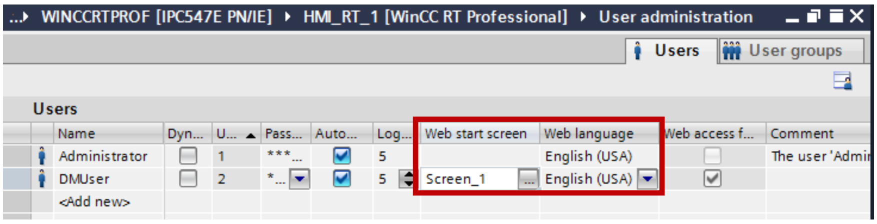
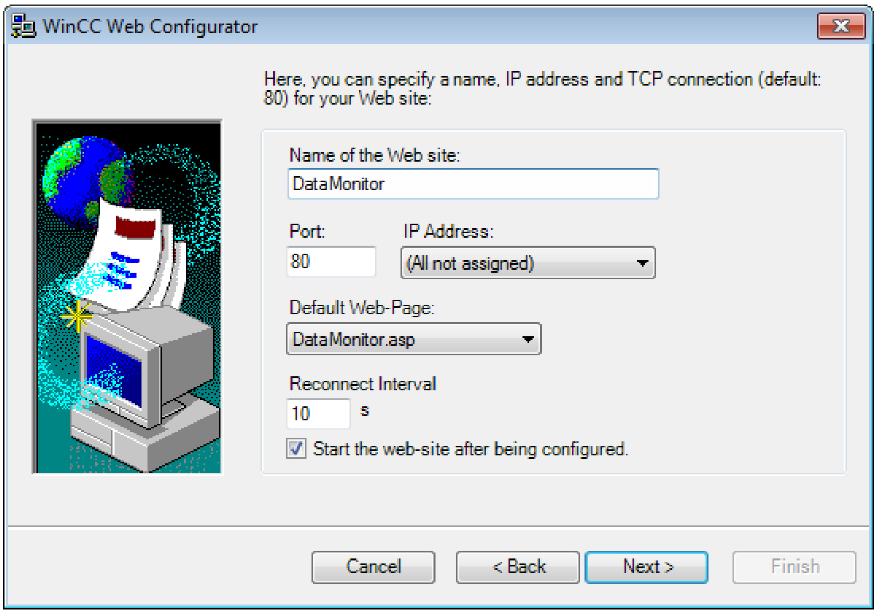
No.	Action
1.	Start the installation setup "WinCC Runtime Professional" on the DataMonitor client.
2.	Select the installation language and read the installation and product information.
3.	Select the languages to be installed.

No.	Action
4.	Deselect the preselected components and select the "Data Monitor Client" component. If required, select the components "Excel WorkBook Wizard" or "Excel WorkBook". To install these components, Microsoft Excel 2007 or higher is required.  SIMATIC WinCC Runtime Professional - Setup SIEMENS Totally Integr Welcome to WinCC Runtime Professional V13.0 General settings Configuration Install Overview Modify system System configuration Summary Minimal Typical < Back N Please select the product features you want to insta components which are already installed, they will b ☐ SIMATIC WinCC Runtime Professional V13.0 ☐ SIMATIC WinCC Runtime Client V13.0 ☐ SIMATIC WinCC Webnavigator ■ SIMATIC WinCC Datamonitor ☐ Data Monitor Server ☑ Data Monitor Client ☐ Excel WorkBook Wizard ☐ Excel WorkBook ☐ SIMATIC Logon ☐ Tools Client component for the display and analysis of current proces data on Office computers with standard tools such as MS Inter Hard Disk Drive space: Drive: C:\ Size: 100,0GB Available: 87,2GB Required: 1,1GB Ter: 1,0 Target directory: C:\Program Files\Siemens\Automation
5.	Read and accept the license conditions and security information.
6.	Start the installation.

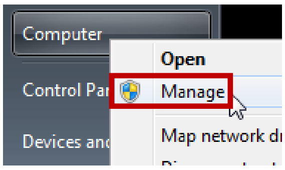
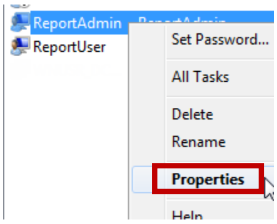
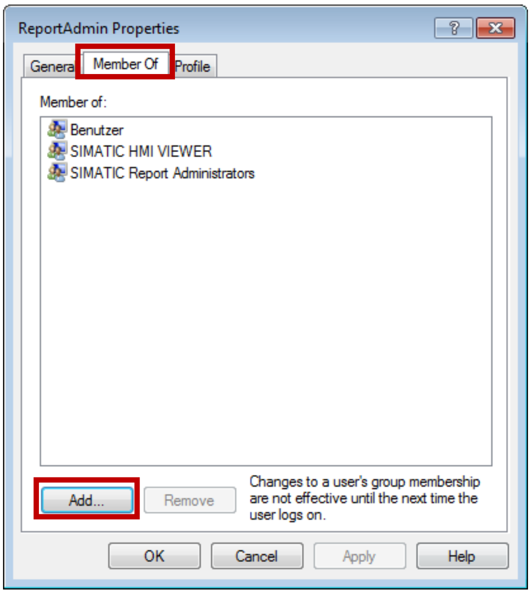
7.3.2 Project engineering

Table 7-9

No.	Action
1.	Open an existing WinCC (TIA Portal) project on the programmer or create a new project as described in the previous chapters.
2.	Right-click on a screen that you want to release for web access and select "Web access" in the context menu.  WINCCRTPROF [IPC547E PN/IE] Device configuration Online & diagnostics HMI_RT_1 [WinCC RT Professional] Device configuration Online & diagnostics Runtime settings Screens Add new screen Screen_1 Screen_2 Screen_3 Screen_4 Screen_5 Screen_6 Screen_7 Screen man HMI tags Connections HMI alarms Open Copy Paste Delete Rename Define as start screen Web access You can also release all screens for web access. To this end, right-click to open the context menu of the "Screens" folder and then click on "Web access for all".
3.	Open the runtime settings of the DataMonitor server and configure the runtime behavior under "Web access".  DataMonitor ▸ WINCCRTPROF [IPC547E PN/IE] ▸ HMI_RT_1 [WinCC RT Professional] ▸ Runtime settings General Services Screens Keyboard Alarms Logging OPC settings User administration Language & font Web access Graphic settings Tag settings Redundancy Web access Appearance Use "WinCC Classic" design: ☐ "View only" cursor: Server overload Maximum number of concurrent connections: 150 Maximum number of tabs per browser: 3 Additional settings Disable local user groups: ☐ Alarms in event display: ☐

<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>4.</td><td>Open the User administration and create the DataMonitor client users.
Set the web start screen and web language for the respective users.

...▸ WINCCRTPROF [IPC547E PN/IE] ▸ HMI_RT_1 [WinCC RT Professional] ▸ User administration
Users | User groups
Users
<table>
<tr><th>Name</th><th>Dyn...</th><th>U...</th><th>Pass...</th><th>Auto...</th><th>Log...</th><th>Web start screen</th><th>Web language</th><th>Web access f...</th><th>Comment</th></tr>
<tr><td>Administrator</td><td>☐</td><td>1</td><td>***...</td><td>☑</td><td>5</td><td></td><td>English (USA)</td><td>☐</td><td>The user 'Admi</td></tr>
<tr><td>DMUser</td><td>☐</td><td>2</td><td>*...</td><td>☑</td><td>5</td><td>Screen_1</td><td>English (USA)</td><td>☑</td><td></td></tr>
<tr><td><Add new></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>5.</td><td>Assign the authorization "Web access – View only" (number 1002). The DataMonitor client is always a so-called "View Only Client".</td></tr>
<tr><td>6.</td><td>Transfer the project to the DataMonitor server. To this end, click the "Download to device" button and navigate to the released network folder on the DataMonitor server.
If you have problems in loading the DataMonitor server, please regard the notes in \5\ of the References.</td></tr>
<tr><td>7.</td><td>Start the WinCC Web Configurator on the DataMonitor server via "Start > All Programs > Siemens Automation > Options and Tools > HMI Tools > WinCC WebConfigurator".</td></tr>
<tr><td>8.</td><td>Decide whether you want to add a new default web page or virtual directory to an existing web site.</td></tr>
<tr><td>9.</td><td>Assign a name to the web site. Define the port and IP address of the web site. If the DataMonitor server is to be available via the Intranet and Internet, select "All not assigned".
Define the time after which the DataMonitor client tries to reestablish the connection to the DataMonitor server in case of a connection failure.

WinCC Web Configurator
Here, you can specify a name, IP address and TCP connection (default: 80) for your Web site:
Name of the Web site: DataMonitor
Port: 80
IP Address: (All not assigned)
Default Web-Page: DataMonitor.asp
Reconnect Interval: 10 s
☑ Start the web-site after being configured.

Click on "Next" if you have a firewall installed. Click on "Finish" and skip step 10 if you have no firewall installed.</td></tr>
<tr><td>10.</td><td>Click the "Windows Firewall" button. Click on "Allow a program or feature through Windows Firewall". Click the "Change settings" button. Enable "Secure World Wide Web Services (HTTPS)" and "World Wide Web Services (HTTP)". Close the Windows dialogs.
Click on "Finish" in the WinCC Web Configurator.</td></tr>
</table>

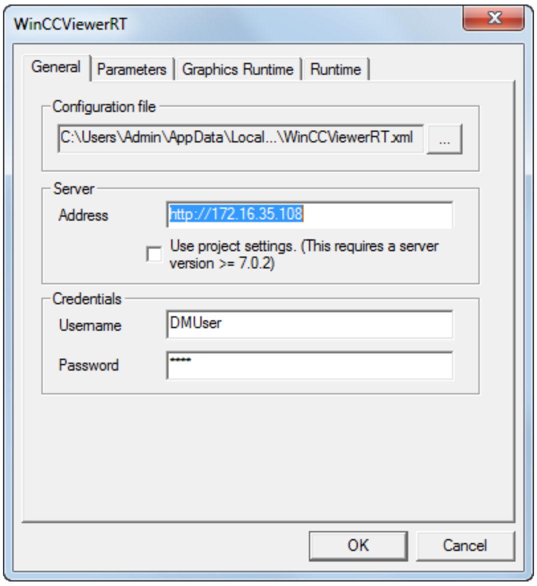
No.	Action
11.	Open the Computer Management. To this end, open the start menu and right-click on "Computer". Click on "Manage" in the context menu.  Computer Control Par Devices and Open Manage Map network dr
12.	Open "Local Users and Groups > Users". Add new "ReportUser" and "ReportAdmin" users. Create the passwords for these users.
13.	Right-click on a user and select "Properties".  ReportAdmin ReportUser Set Password... All Tasks Delete Rename Properties Help
14.	Change to the "Member Of" tab and add the user group "SIMATIC Report Administrators" or "SIMATIC Report Users" and the user group "SIMATIC HMI VIEWER" via the "Add" button.  ReportAdmin Properties Member of: Benutzer SIMATIC HMI VIEWER SIMATIC Report Administrators Changes to a user's group membership are not effective until the next time the user logs on. General Member Of Profile Add... Remove OK Cancel Apply Help
15.	Restart the DataMonitor server.
16.	Start the runtime of the WinCC project.

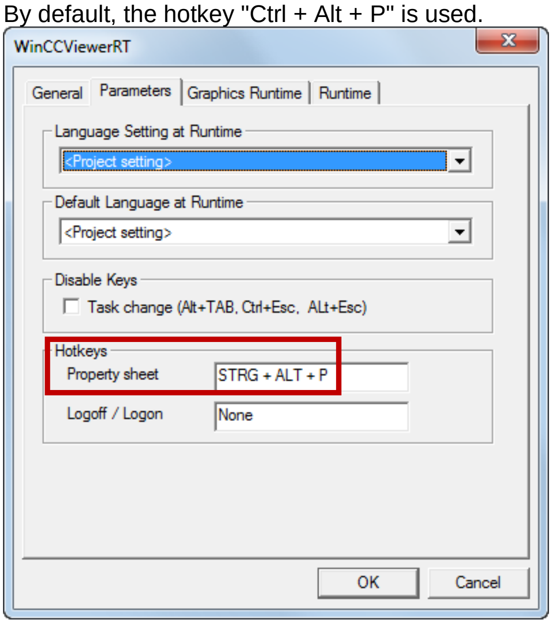
7.3.3 Working with the DataMonitor components

WinCCViewer RT

With the WinCCViewer RT you can monitor the WinCC screens released for web access on a DataMonitor client. Process-relevant operator interventions are not possible. Other operator interventions such as screen changes are possible from the DataMonitor client.

Table 7-10

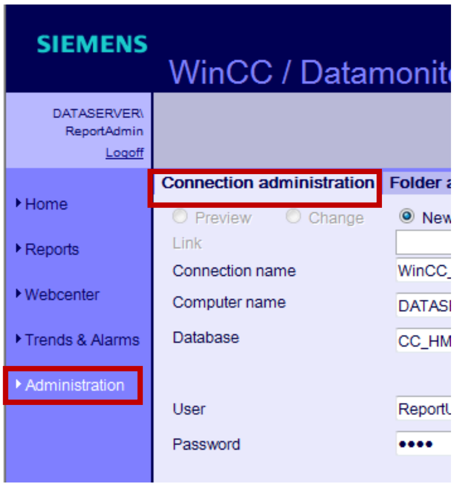
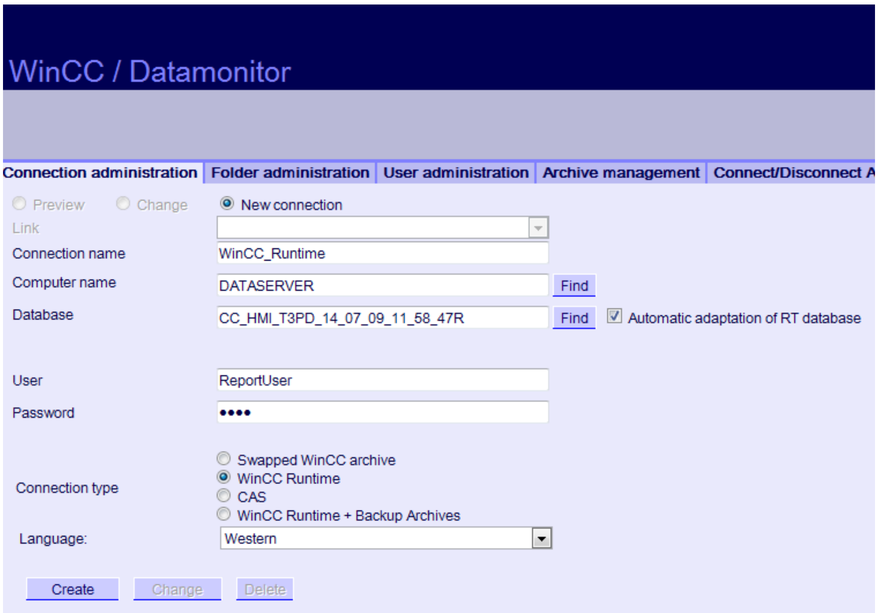
No.	Action
1.	Start the WinCC Viewer RT via "Start > All Programs > Siemens Automation > Options and Tools > HMI Tools > WinCCViewerRT".
2.	Enter the address of the DataMonitor server at "Address" in the format "http://IPaddress:port" or "http://servername". If you use the default port 80, this is not necessary. At "Username" and "Password", enter the user data of the WinCC user with the authorization 1002.  Configuration file: C:\Users\Admin\AppData\Local...\WinCCViewerRT.xml Server Address: http://172.16.35.108 ☐ Use project settings. (This requires a server version >= 7.0.2) Credentials Username: DMUser Password: **** WinCCViewerRT General Parameters Graphics Runtime Runtime ... OK Cancel
3.	Define the other settings for the DataMonitor client, e.g., screen attributes, on the "Parameters", "Graphics Runtime", and "Runtime" tabs.

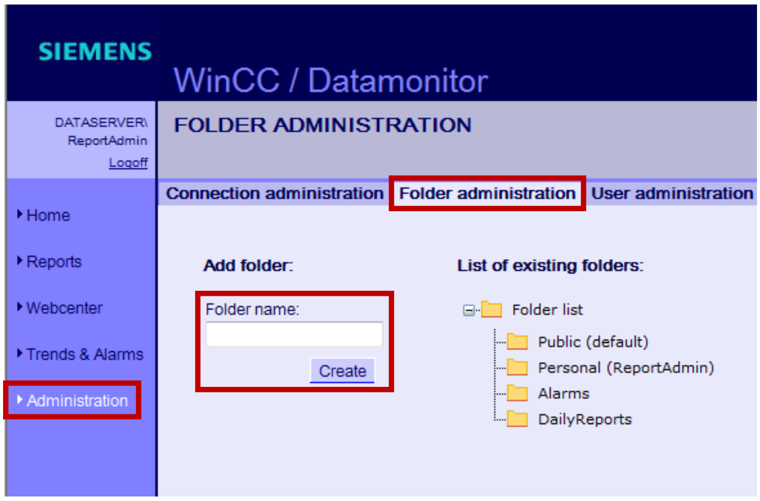
No.	Action
4.	To change settings later, enter a hotkey for the Property sheet on the "Parameters" tab. By default, the hotkey "Ctrl + Alt + P" is used.  WinCCViewerRT General Parameters Graphics Runtime Runtime OK Cancel Language Setting at Runtime <Project setting> Default Language at Runtime <Project setting> Disable Keys ☐ Task change (Alt+TAB, Ctrl+Esc, ALt+Esc) Hotkeys Property sheet STRG + ALT + P Logoff / Logon None
5.	Click on "OK" to apply the settings. The connection to the DataMonitor server is established.

Administration

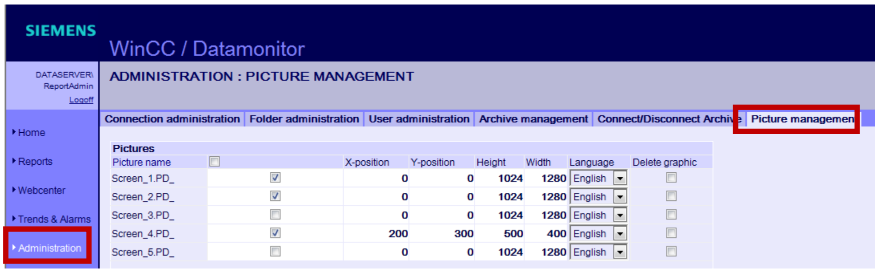
To work with the DataMonitor web page, some administrative settings are required.

Table 7-11

No.	Action
1.	Open the web page of the DataMonitor server. Log in with the "ReportAdmin" Windows user. Open the "Administration" page.
2.	On the "Connection administration" page, you create new connections or edit existing connections. These connections are required for the "Webcenter" and "Trends & Alarms" functions.  SIEMENS WinCC / Datamonit DATASERVER\ ReportAdmin Logoff Home Reports Webcenter Trends & Alarms Administration Connection administration Folder a ○ Preview ○ Change ● New Link Connection name WinCC_ Computer name DATASI Database CC_HM User ReportU Password •••• Select "New connection". Enter the name for the connection. Enter the user name and password of the Windows user on the DataMonitor server. Enter the computer name and database or search for them using the "Find" button. Check the "Automatic adaptation of the RT database" check box in order that the database is adapted automatically in the event of a segment change. Select the language. Click the "Create" button.  WinCC / Datamonitor Connection administration Folder administration User administration Archive management Connect/Disconnect A ○ Preview ○ Change ● New connection Link Find Find Create Change Delete Connection name WinCC_Runtime Computer name DATASERVER Database CC_HMI_T3PD_14_07_09_11_58_47R ☑ Automatic adaptation of RT database User ReportUser Password •••• Connection type ○ Swapped WinCC archive ● WinCC Runtime ○ CAS ○ WinCC Runtime + Backup Archives Language: Western

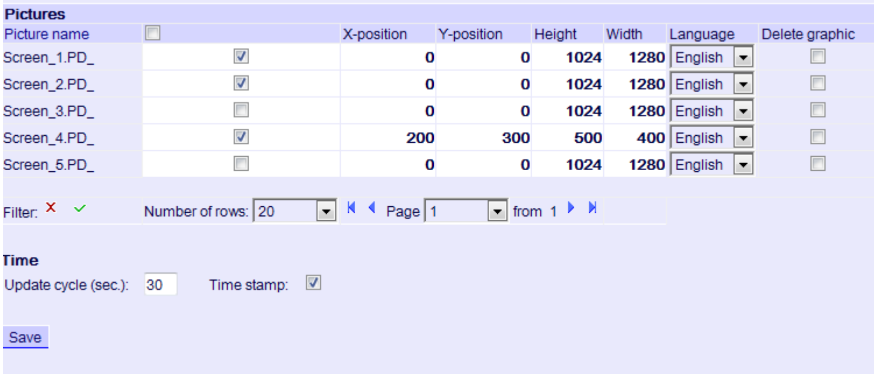
No.	Action
3.	On the "Folder administration" page, new folders are created. Thus, the contents on the DataMonitor server can be sorted better and the access rights can be assigned. To create a new folder, enter a name in the "Folder name" field and click the "Create" button.  SIEMENS WinCC / Datamonitor DATASERVER\ ReportAdmin Logoff FOLDER ADMINISTRATION Connection administration Folder administration User administration Home Reports Webcenter Trends & Alarms Administration Add folder: Folder name: Create List of existing folders: Folder list Public (default) Personal (ReportAdmin) Alarms DailyReports The "User administration" page is opened automatically. Define which Windows user rights are required in order that the user can read, edit, or create the files in this folder.
4.	On the "Archive management" page, swapped-out archive segments can be connected. For that, the directory must be released on the DataMonitor server. Select the directory and assign a name. If necessary, check "Automatically connect all archives in this directory". If this option is not checked, connect the archives manually in the relevant directory on the "Connect/Disconnect Archive" page.

<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>5.</td><td>
On the "Picture management" page, you can configure the process pictures for static use in web parts.


SIEMENS
WinCC / Datamonitor
DATASERVER\
ReportAdmin
Logoff
ADMINISTRATION : PICTURE MANAGEMENT
Connection administration
Folder administration
User administration
Archive management
Connect/Disconnect Archive
Picture managemen
Home
Reports
Webcenter
Trends & Alarms
Administration

The pictures released for web access are displayed on this page. By checking the relevant check box, the respective picture is released for use in the web parts. If necessary, you can define a picture detail to be displayed via the columns "X-position", "Y-position", "Height", and "Width". In the "Language" column you define the language in which the process graphic is displayed.

In the "Update cycle" field below the table you define in which intervals the process graphic is refreshed. To display the last update time, check the "Time stamp" check box.



Pictures

<table>
<tr><th>Picture name</th><th>☐</th><th>X-position</th><th>Y-position</th><th>Height</th><th>Width</th><th>Language</th><th>Delete graphic</th></tr>
<tr><td>Screen_1.PD_</td><td>☑</td><td>0</td><td>0</td><td>1024</td><td>1280</td><td>English</td><td>☐</td></tr>
<tr><td>Screen_2.PD_</td><td>☑</td><td>0</td><td>0</td><td>1024</td><td>1280</td><td>English</td><td>☐</td></tr>
<tr><td>Screen_3.PD_</td><td>☐</td><td>0</td><td>0</td><td>1024</td><td>1280</td><td>English</td><td>☐</td></tr>
<tr><td>Screen_4.PD_</td><td>☑</td><td>200</td><td>300</td><td>500</td><td>400</td><td>English</td><td>☐</td></tr>
<tr><td>Screen_5.PD_</td><td>☐</td><td>0</td><td>0</td><td>1024</td><td>1280</td><td>English</td><td>☐</td></tr>
</table>

Filter: ✗ ✓ Number of rows: 20 Page 1 from 1

Time

Update cycle (sec.): 30 Time stamp: ☑

</td></tr>
</table>

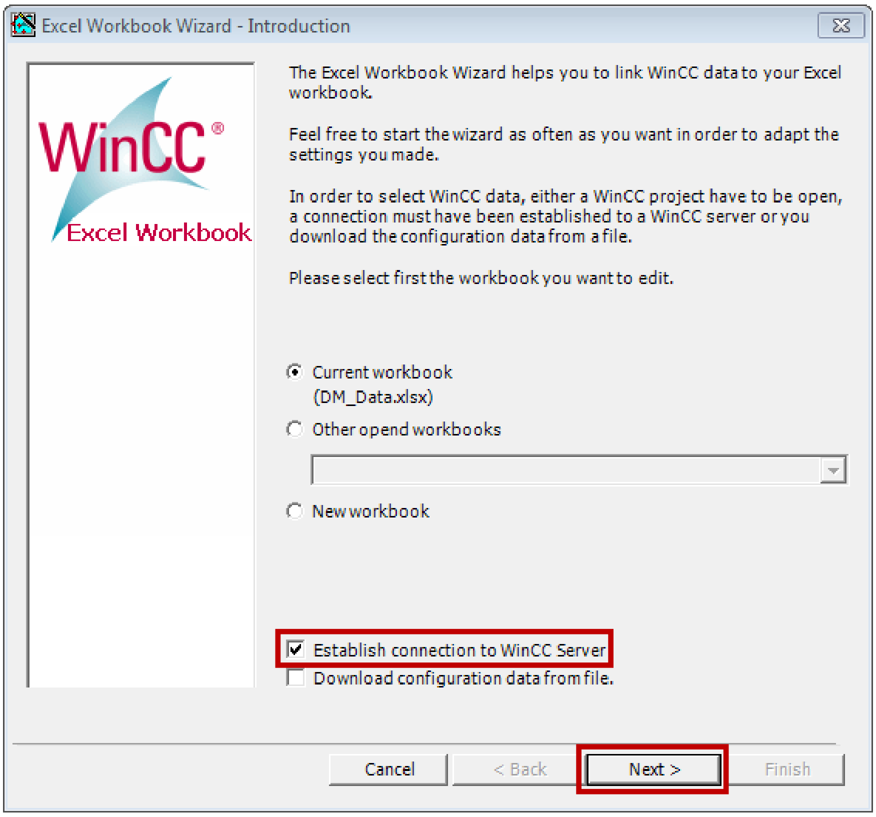
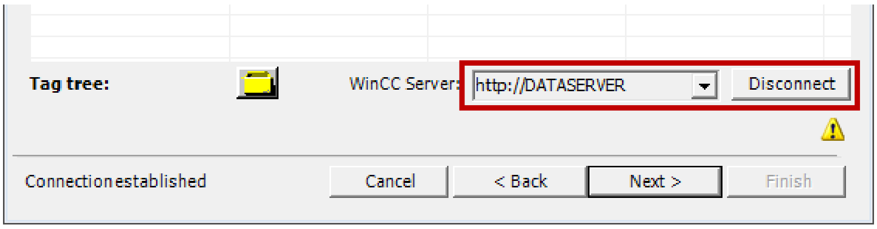
Excel workbooks and reports

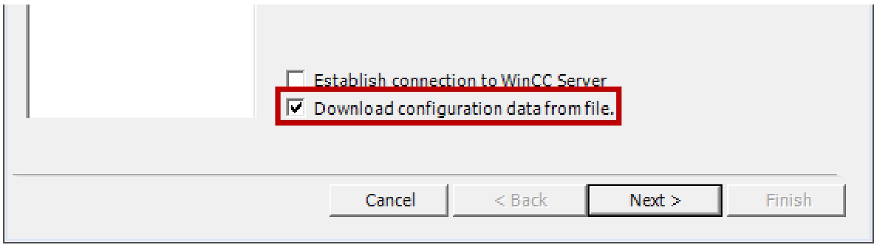
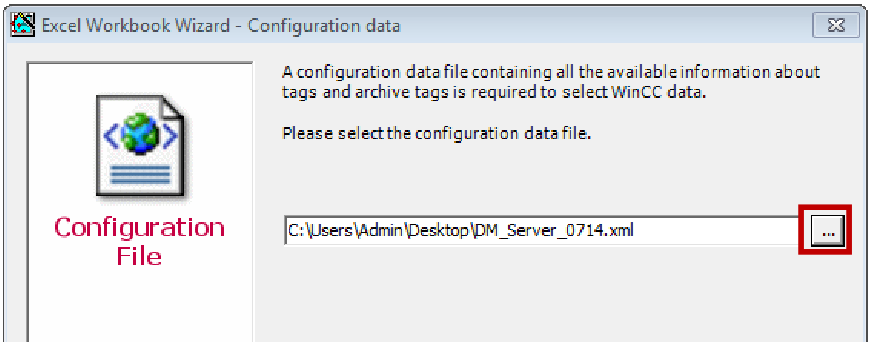
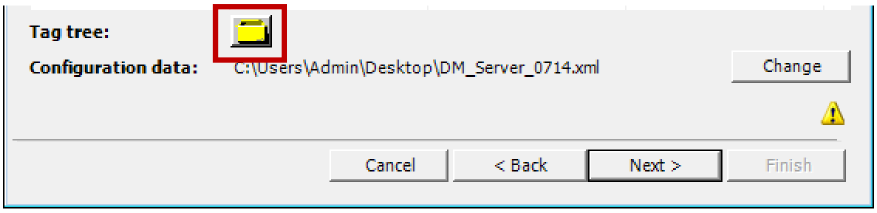
With the Excel Workbook Wizard, you can configure and publish Excel workbooks. These workbooks can be used either for creating reports or for online monitoring of process data using Excel Workbook.

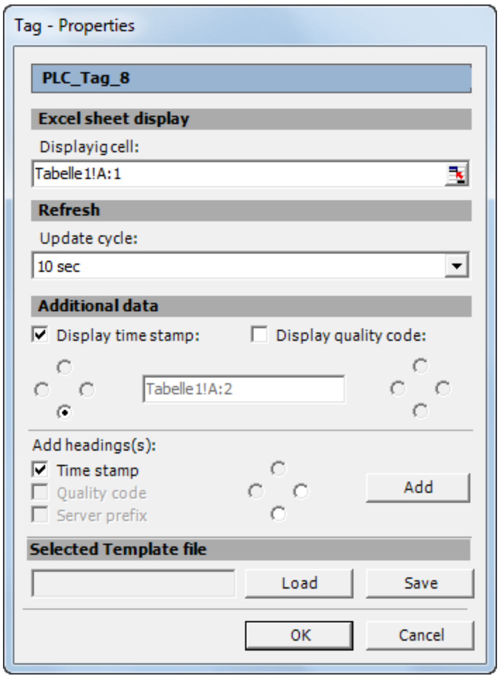
Creating and publishing Excel workbooks

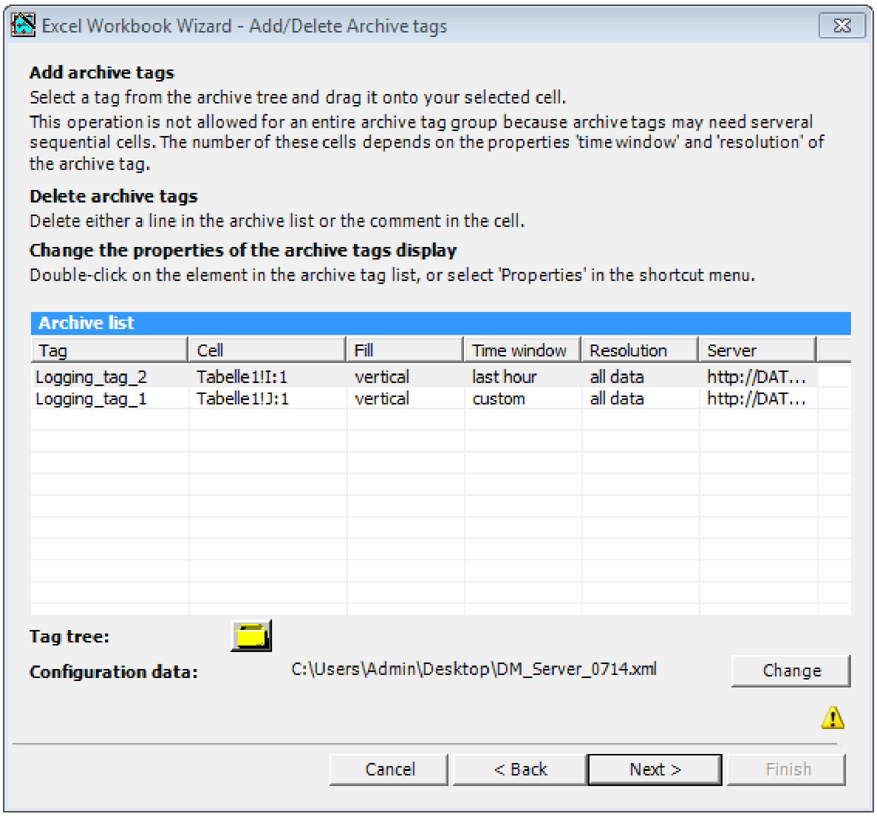
Table 7-12

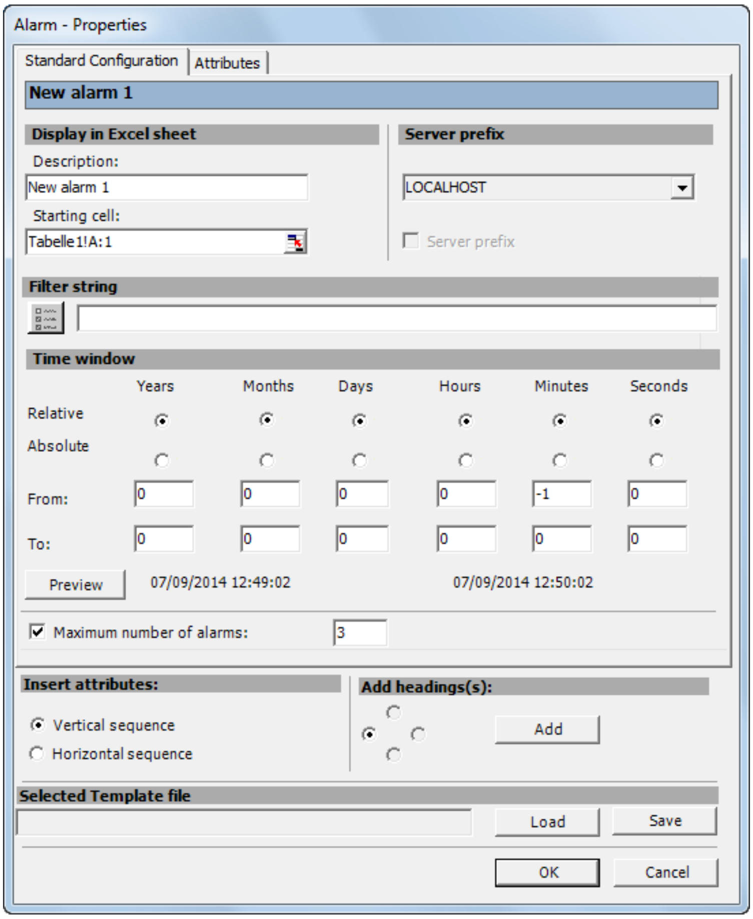
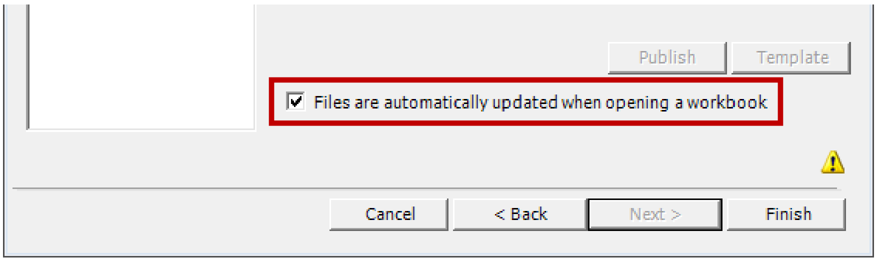
No.	Action
1.	Open a blank Excel workbook. In the menu, select "AddIns > DataMonitor > Excel Workbook Wizard...".
2.	Decide whether you want to edit the current, another opened, or a new workbook.
3.	The WinCC data can be connected with Excel in different ways.
3 a	If you execute the Excel Workbook Wizard directly on the DataMonitor server, the data from the WinCC project are applied automatically.

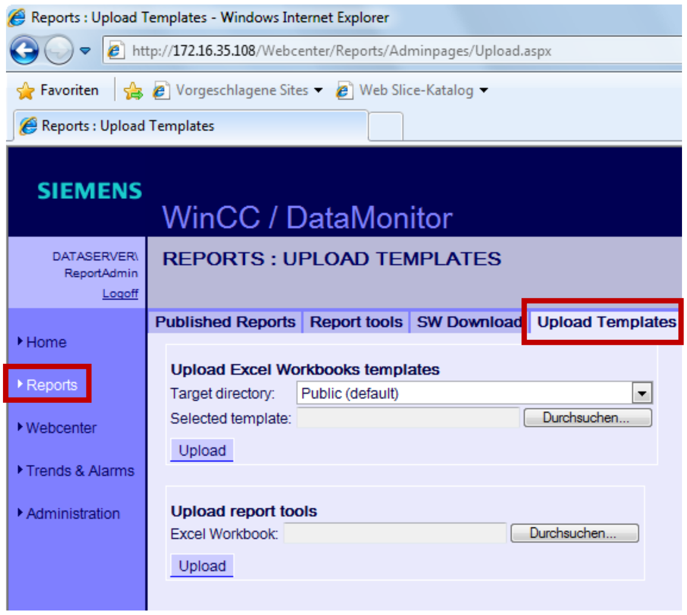
No.	Action
3 b	If you execute the Excel Workbook Wizard on a different PC, you can establish a connection to the DataMonitor server. To this end, check "Establish connection to WinCC Server" and click the "Next" button.  Excel Workbook Wizard - Introduction The Excel Workbook Wizard helps you to link WinCC data to your Excel workbook. Feel free to start the wizard as often as you want in order to adapt the settings you made. In order to select WinCC data, either a WinCC project have to be open, a connection must have been established to a WinCC server or you download the configuration data from a file. Please select first the workbook you want to edit. ● Current workbook (DM_Data.xlsx) ○ Other opend workbooks ○ New workbook ☑ Establish connection to WinCC Server ☐ Download configuration data from file. WinCC® Excel Workbook Cancel < Back Next > Finish Enter the address of the DataMonitor server in the "WinCC Server" field and click the "Connect" button. Enter the user data of the WinCC user.  WinCC Server: http://DATASERVER Connection established Tag tree: Disconnect Cancel < Back Next > Finish

No.	Action
3 c	If you execute the Excel Workbook Wizard on a different PC not connected with the DataMonitor server, you can load a configuration file. Start the "WinCC DataMonitor Configurator Export" on the DataMonitor server via "Start > All Programs > Siemens Automation > Options and Tools > HMI Tools". Decide which tags are to be exported. Decide whether archives and messages are to be exported. Define a path for the XML file and click the "Export" button. Copy the XML file to the PC with which you execute the Excel Workbook Wizard. Check the "Download configuration data from file" check box and click on "Next".  ☐ Establish connection to WinCC Server ☑ Download configuration data from file. Select the XML file and click on "Next".  Excel Workbook Wizard - Configuration data A configuration data file containing all the available information about tags and archive tags is required to select WinCC data. Please select the configuration data file. C:\Users\Admin\Desktop\DM_Server_0714.xml
4.	Click on the symbol next to "Tag tree".  **Tag tree:** **Configuration data:** C:\Users\Admin\Desktop\DM_Server_0714.xml Select the desired tag and drag and drop it in a cell of the Excel table. Close the "Tag Management" window. In the Excel table, "OV" for online variable is entered in the respective cells. The tag name is displayed in the comment.

<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>5.</td><td>Double-click on a tag in the Excel Workbook Wizard to adapt settings such as the update cycle.

Tag - Properties
PLC_Tag_8
Excel sheet display
Displayig cell: Tabelle1!A:1
Refresh
Update cycle: 10 sec
Additional data
☑ Display time stamp: ☐ Display quality code:
Tabelle1!A:2
Add headings(s):
☑ Time stamp
☐ Quality code
☐ Server prefix

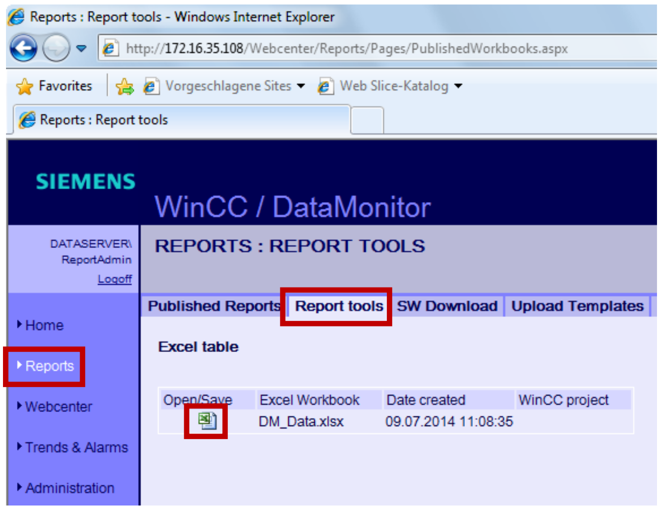
Selected Template file
</td></tr>
<tr><td>6.</td><td>Click the "Next" button and execute steps 4 and 5 for the archive tags.
In the Excel table, "AV" for archive variable is entered in the respective cells. The tag name is displayed in the comment.

Excel Workbook Wizard - Add/Delete Archive tags
Add archive tags
Select a tag from the archive tree and drag it onto your selected cell.
This operation is not allowed for an entire archive tag group because archive tags may need serveral sequential cells. The number of these cells depends on the properties 'time window' and 'resolution' of the archive tag.
Delete archive tags
Delete either a line in the archive list or the comment in the cell.
Change the properties of the archive tags display
Double-click on the element in the archive tag list, or select 'Properties' in the shortcut menu.
Archive list
<table>
<tr><th>Tag</th><th>Cell</th><th>Fill</th><th>Time window</th><th>Resolution</th><th>Server</th></tr>
<tr><td>Logging_tag_2</td><td>Tabelle1!I:1</td><td>vertical</td><td>last hour</td><td>all data</td><td>http://DAT...</td></tr>
<tr><td>Logging_tag_1</td><td>Tabelle1!J:1</td><td>vertical</td><td>custom</td><td>all data</td><td>http://DAT...</td></tr>
</table>
Tag tree:
Configuration data: C:\Users\Admin\Desktop\DM_Server_0714.xml
</td></tr>
</table>

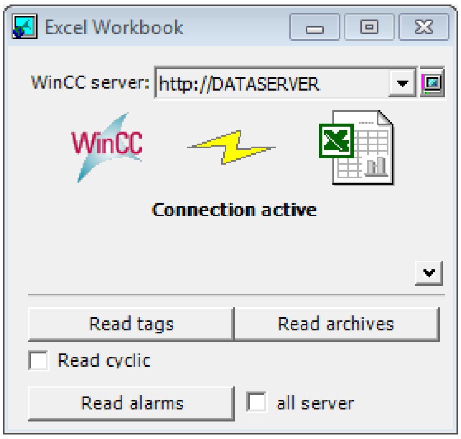
No.	Action
7.	Click the "Next" button and click on the symbol next to "Add alarm". Adapt the settings (e.g., filter conditions) according to your requirements.  Alarm - Properties New alarm 1 **Display in Excel sheet** Description: New alarm 1 Starting cell: Tabelle1!A:1 **Server prefix** LOCALHOST ☐ Server prefix **Filter string** **Time window** Relative: Years ●, Months ●, Days ●, Hours ●, Minutes ●, Seconds ● Absolute: Years ○, Months ○, Days ○, Hours ○, Minutes ○, Seconds ○ From: 0, 0, 0, 0, -1, 0 To: 0, 0, 0, 0, 0, 0 Preview 07/09/2014 12:49:02 07/09/2014 12:50:02 ☑ Maximum number of alarms: 3 **Insert attributes:** ● Vertical sequence ○ Horizontal sequence **Add headings(s):** **Selected Template file**
8.	Click the "Next" button. If necessary, check the "Files are automatically updated when opening a workbook" check box.  ☑ Files are automatically updated when opening a workbook
9.	If you work directly on the DataMonitor server, you can publish the Excel workbook directly using the "Publish" button or provide it as a template using the "Template" button.

No.	Action
10.	If you do not work directly on the DataMonitor server, open the DataMonitor web page in the Internet Explorer. Log in with the "ReportAdmin" Windows user. Change to the "Reports > Upload Templates" tab. Upload the Excel workbook as report tool or template.  Reports : Upload Templates - Windows Internet Explorer http://172.16.35.108/Webcenter/Reports/Adminpages/Upload.aspx Favoriten Vorgeschlagene Sites Web Slice-Katalog Reports : Upload Templates SIEMENS WinCC / DataMonitor DATASERVER\ ReportAdmin Logoff REPORTS : UPLOAD TEMPLATES Published Reports Report tools SW Download Upload Templates Home Reports Webcenter Trends & Alarms Administration Upload Excel Workbooks templates Target directory: Public (default) Selected template: Durchsuchen... Upload Upload report tools Excel Workbook: Durchsuchen... Upload

Displaying process data with Excel Workbook

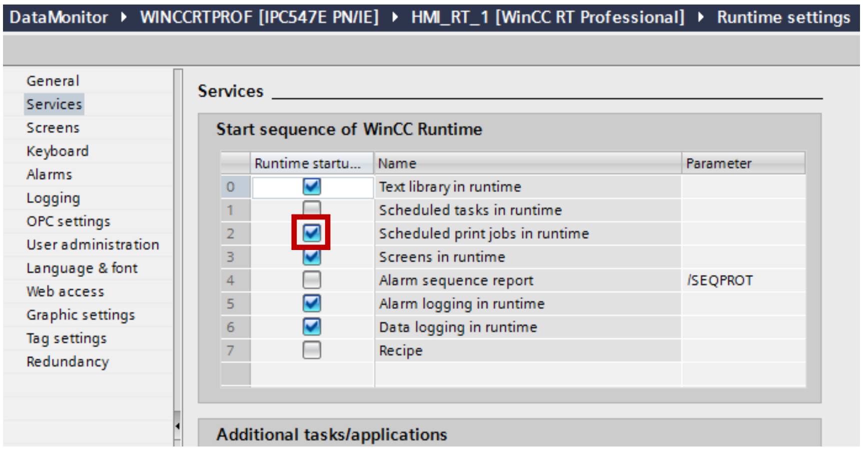
Table 7-13

No.	Action
1.	Open the web page of the DataMonitor server in the Internet Explorer. Log in with the "ReportUser" or "ReportAdmin" Windows user.
2.	Open the "Reports > Report tools" page. Click on the Excel icon next to the table that you want to open.  Reports : Report tools - Windows Internet Explorer http://172.16.35.108/Webcenter/Reports/Pages/PublishedWorkbooks.aspx Favorites Vorgeschlagene Sites Web Slice-Katalog Reports : Report tools SIEMENS WinCC / DataMonitor DATASERVER\ ReportAdmin Logoff REPORTS : REPORT TOOLS Published Reports Report tools SW Download Upload Templates Home Reports Webcenter Trends & Alarms Administration Excel table Open/Save Excel Workbook Date created WinCC project DM_Data.xlsx 09.07.2014 11:08:35
3.	Select whether the table is to be opened or saved.
4.	In the menu bar, open "AddIns > DataMonitor > Excel Workbook".

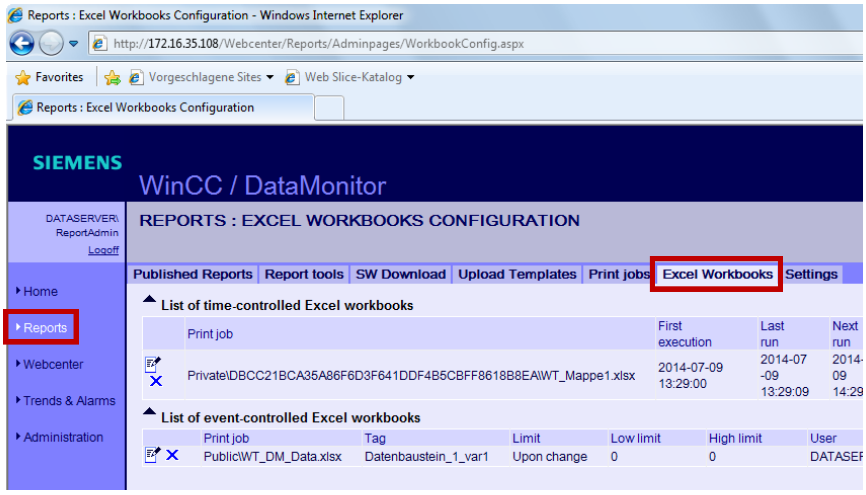
No.	Action
5.	At "WinCC Server", the server used in the Excel workbook is entered automatically. If the data of several WinCC servers are to be read, check the "all server" check box.
6.	Click the "Connect" button. In the subsequent dialog, enter the user data of the WinCC user.
7.	Check the "Read cyclic" check box if the tag values are to be updated cyclically. Click the "Read tags", "Read archives", or "Read alarms" button.  Excel Workbook WinCC server: http://DATASERVER Connection active Read tags Read archives ☐ Read cyclic Read alarms ☐ all server

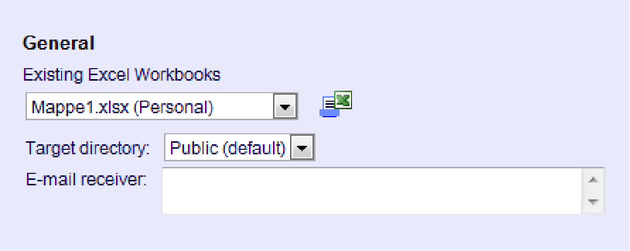
Creating reports

Table 7-14

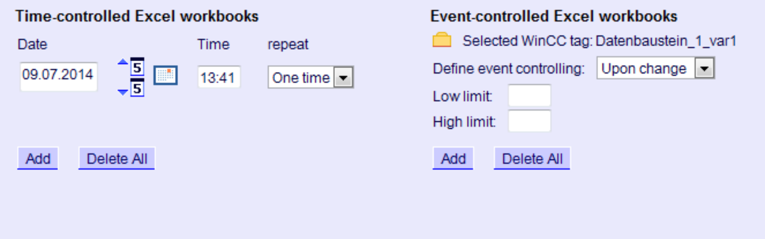
<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>1.</td><td>Enable the "Scheduled print jobs in runtime" service in the WinCC (TIA Portal) project in the runtime settings of the DataMonitor server. Transfer the project to the DataMonitor server.

DataMonitor ▸ WINCCRTPROF [IPC547E PN/IE] ▸ HMI_RT_1 [WinCC RT Professional] ▸ Runtime settings

Services
Start sequence of WinCC Runtime
<table>
<tr><th></th><th>Runtime startu...</th><th>Name</th><th>Parameter</th></tr>
<tr><td>0</td><td>☑</td><td>Text library in runtime</td><td></td></tr>
<tr><td>1</td><td>☐</td><td>Scheduled tasks in runtime</td><td></td></tr>
<tr><td>2</td><td>☑</td><td>Scheduled print jobs in runtime</td><td></td></tr>
<tr><td>3</td><td>☑</td><td>Screens in runtime</td><td></td></tr>
<tr><td>4</td><td>☐</td><td>Alarm sequence report</td><td>/SEQPROT</td></tr>
<tr><td>5</td><td>☑</td><td>Alarm logging in runtime</td><td></td></tr>
<tr><td>6</td><td>☑</td><td>Data logging in runtime</td><td></td></tr>
<tr><td>7</td><td>☐</td><td>Recipe</td><td></td></tr>
</table>
Additional tasks/applications</td></tr>
<tr><td>2.</td><td>Open the DataMonitor web page in the Internet Explorer. Open the "Reports > Settings" page. Log in with the "ReportAdmin" Windows user.</td></tr>
<tr><td>3.</td><td>Select a printer. Check "Enable API print" to create reports in PDF format.</td></tr>
<tr><td>4.</td><td>If necessary, define the settings for e-mail sending.</td></tr>
<tr><td>5.</td><td>Click on the floppy disk icon to save the settings.</td></tr>
</table>

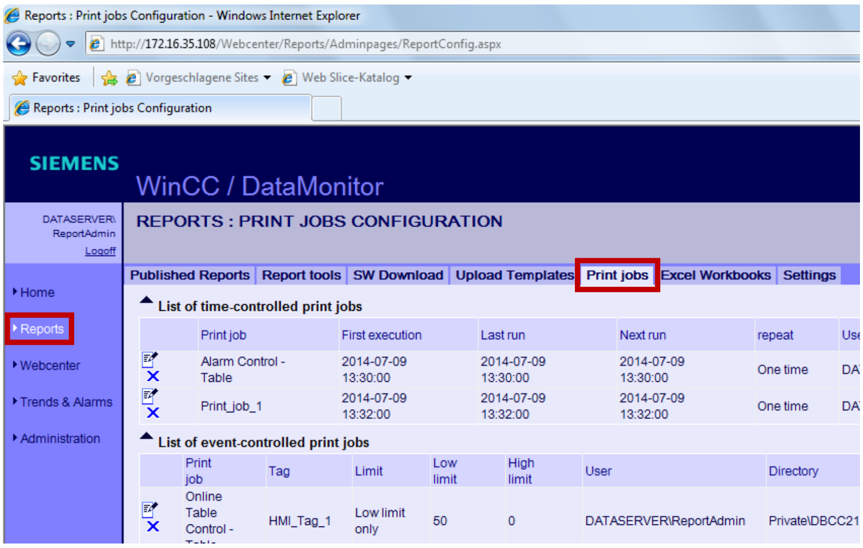
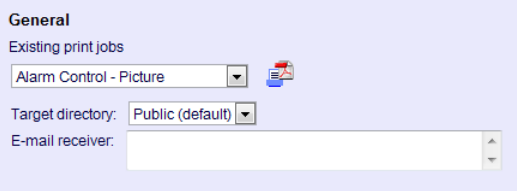
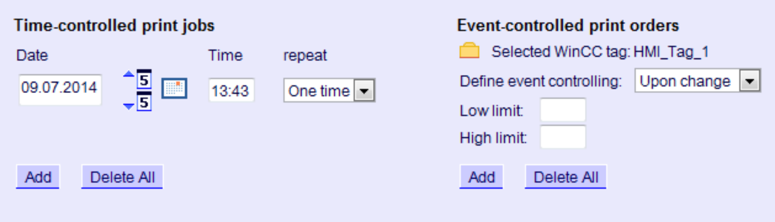
<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>6.</td><td>
To create a report from an Excel workbook, open the "Reports > Excel Workbooks" page. In the top window area you see the reports already created for Excel workbooks. These are subdivided into time- and event-controlled reports.

Reports : Excel Workbooks Configuration - Windows Internet Explorer
http://172.16.35.108/Webcenter/Reports/Adminpages/WorkbookConfig.aspx
Favorites
Vorgeschlagene Sites
Web Slice-Katalog
Reports : Excel Workbooks Configuration
SIEMENS
WinCC / DataMonitor
DATASERVER\
ReportAdmin
Logoff
REPORTS : EXCEL WORKBOOKS CONFIGURATION
Published Reports
Report tools
SW Download
Upload Templates
Print jobs
Excel Workbooks
Settings
Home
Reports
Webcenter
Trends & Alarms
Administration

List of time-controlled Excel workbooks
<table>
<tr><th></th><th>Print job</th><th>First execution</th><th>Last run</th><th>Next run</th></tr>
<tr><td></td><td>Private\DBCC21BCA35A86F6D3F641DDF4B5CBFF8618B8EA\WT_Mappe1.xlsx</td><td>2014-07-09 13:29:00</td><td>2014-07-09 13:29:09</td><td>2014-09 14:29</td></tr>
</table>
List of event-controlled Excel workbooks
<table>
<tr><th></th><th>Print job</th><th>Tag</th><th>Limit</th><th>Low limit</th><th>High limit</th><th>User</th></tr>
<tr><td></td><td>Public\WT_DM_Data.xlsx</td><td>Datenbaustein_1_var1</td><td>Upon change</td><td>0</td><td>0</td><td>DATASEF</td></tr>
</table>
To create a new report, select an existing Excel workbook. Define in which directory the report is stored. If necessary, enter the e-mail recipients for the report.


General
Existing Excel Workbooks: Mappe1.xlsx (Personal)
Target directory: Public (default)
E-mail receiver:

Define the conditions for the time- or event-controlled report dependent on the requirements and create it using the respective "Add" button.

Add
Delete All
Add
Delete All

Time-controlled Excel workbooks
Date: 09.07.2014
Time: 13:41
repeat: One time
Event-controlled Excel workbooks
Selected WinCC tag: Datenbaustein_1_var1
Define event controlling: Upon change
Low limit:
High limit:
</td></tr>
</table>

No.	Action
7.	To create a report from a print job, open the "Reports > Print jobs" page. In the top window area you see the reports already created for print jobs. These are subdivided into time- and event-controlled reports.  Reports : Print jobs Configuration - Windows Internet Explorer http://172.16.35.108/Webcenter/Reports/Adminpages/ReportConfig.aspx REPORTS : PRINT JOBS CONFIGURATION To create a new report, select an existing print job. Define in which directory the report is stored. If necessary, enter the e-mail recipients for the report.  General Existing print jobs: Alarm Control - Picture Target directory: Public (default) E-mail receiver: Define the conditions for the time- or event-controlled report dependent on the requirements and create it using the respective "Add" button.  Time-controlled print jobs Date: 09.07.2014 Time: 13:43 repeat: One time Event-controlled print orders Selected WinCC tag: HMI_Tag_1 Define event controlling: Upon change Low limit: High limit:

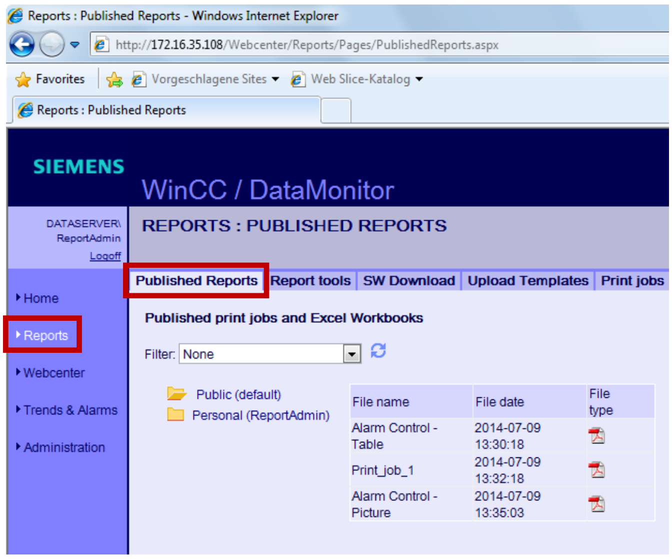
SIEMENS
WinCC / DataMonitor
DATASERVER\ ReportAdmin
Logoff
Home
Reports
Webcenter
Trends & Alarms
Administration
Published Reports
Report tools
SW Download
Upload Templates
Print jobs
Excel Workbooks
Settings
Favorites
Vorgeschlagene Sites
Web Slice-Katalog
Add
Delete All

List of time-controlled print jobs

Print job	First execution	Last run	Next run	repeat	Use
Alarm Control - Table	2014-07-09 13:30:00	2014-07-09 13:30:00	2014-07-09 13:30:00	One time	DA
Print_job_1	2014-07-09 13:32:00	2014-07-09 13:32:00	2014-07-09 13:32:00	One time	DA

List of event-controlled print jobs

Print job	Tag	Limit	Low limit	High limit	User	Directory
Online Table Control -	HMI_Tag_1	Low limit only	50	0	DATASERVER\ReportAdmin	Private\DBCC21

No.	Action
8.	The published reports are shown on the "Reports > Published Reports" page. Depending on the User administration (see Webcenter section), the reports published in the respective directories are shown here. 

Reports : Published Reports - Windows Internet Explorer
http://172.16.35.108/Webcenter/Reports/Pages/PublishedReports.aspx
Favorites
Vorgeschlagene Sites
Web Slice-Katalog
Reports : Published Reports
SIEMENS
WinCC / DataMonitor
DATASERVER\ ReportAdmin
Logoff
REPORTS : PUBLISHED REPORTS
Published Reports
Report tools
SW Download
Upload Templates
Print jobs
Home
Reports
Webcenter
Trends & Alarms
Administration
Published print jobs and Excel Workbooks
Filter: None
Public (default)
Personal (ReportAdmin)

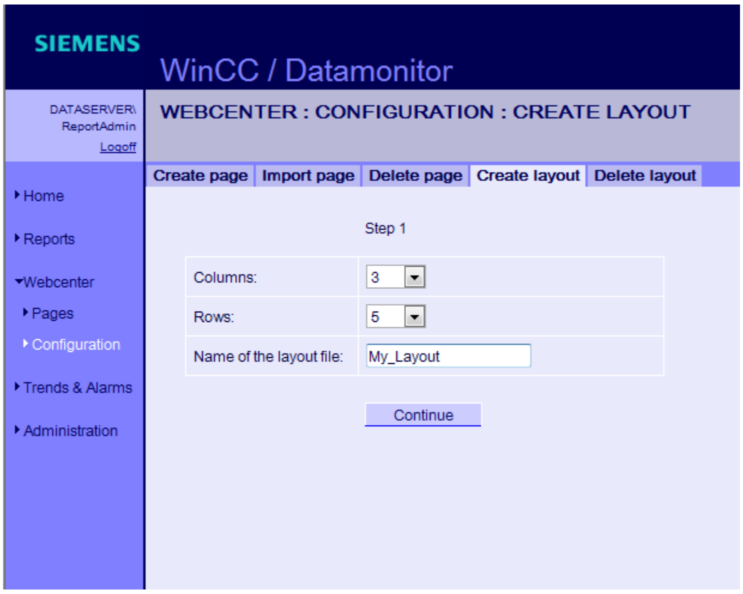
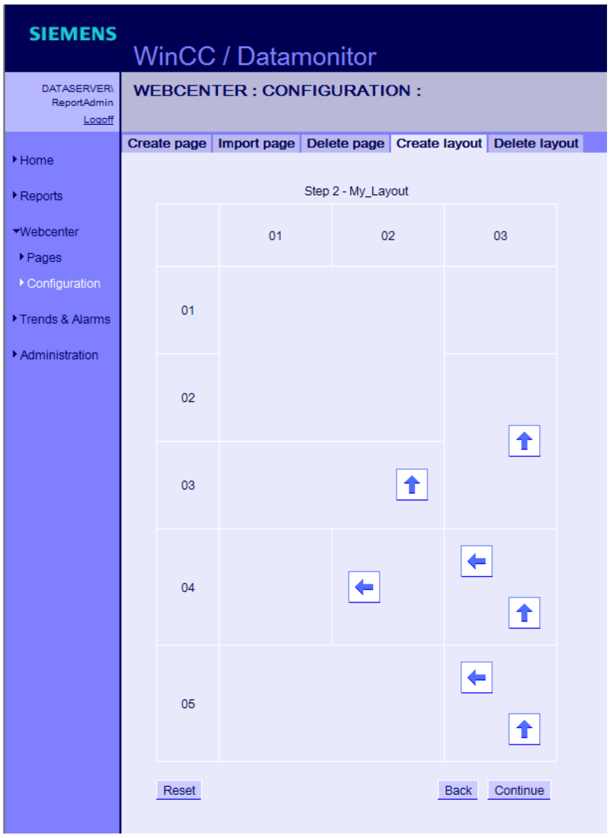
File name	File date	File type
Alarm Control - Table	2014-07-09 13:30:18	PDF
Print_job_1	2014-07-09 13:32:18	PDF
Alarm Control - Picture	2014-07-09 13:35:03	PDF

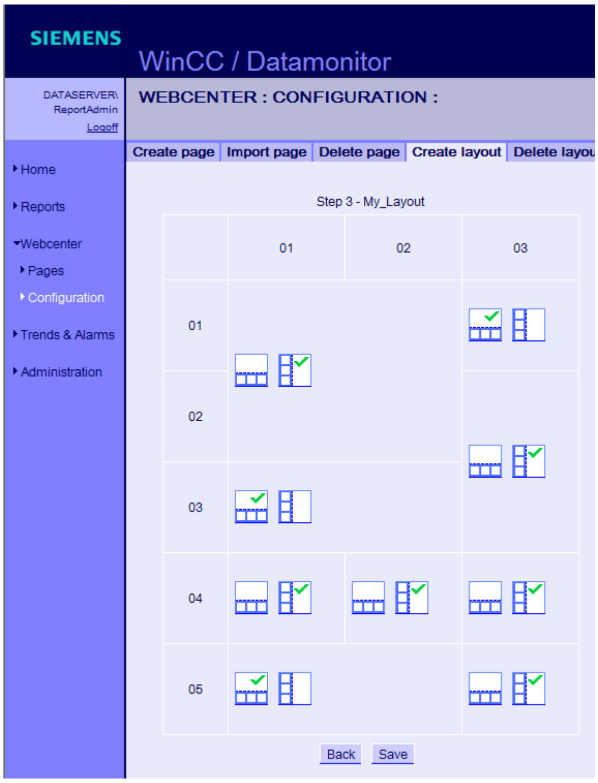
Webcenter, Trends & Alarms

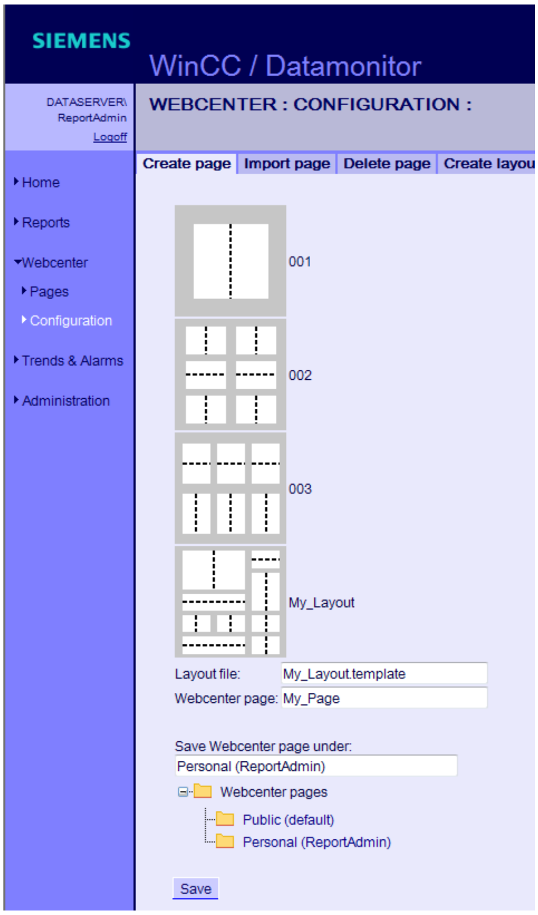
In the Webcenter, you can compile and display customized web part pages.

Table 7-15

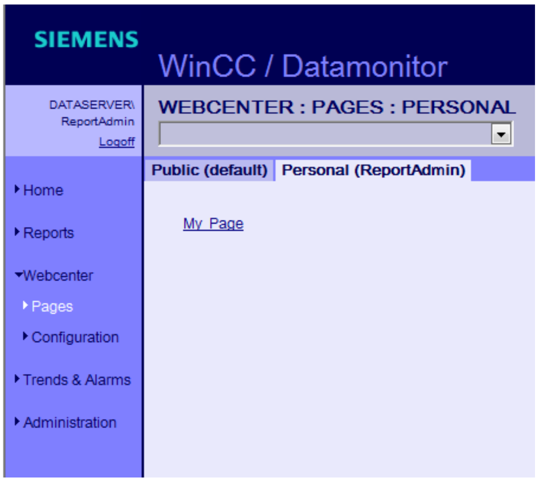
No.	Action
1.	Open the DataMonitor web page in the Internet Explorer. To create pages, log in with the "ReportUser" or "ReportAdmin" Windows user. To create customized layouts, log in with the "ReportAdmin" Windows user.
2.	Open the "Webcenter > Configuration > Create layout" page.

No.	Action
3.	Enter the number of columns and rows as well as a name for the layout and click on "Continue".  SIEMENS WinCC / Datamonitor DATASERVER\ ReportAdmin Logoff WEBCENTER : CONFIGURATION : CREATE LAYOUT Create page Import page Delete page Create layout Delete layout Home Reports Webcenter Pages Configuration Trends & Alarms Administration Step 1 Continue Columns: 3 Rows: 5 Name of the layout file: My_Layout
4.	Click on the arrows to merge neighboring cells and click on "Continue".  SIEMENS WinCC / Datamonitor DATASERVER\ ReportAdmin Logoff WEBCENTER : CONFIGURATION : Create page Import page Delete page Create layout Delete layout Home Reports Webcenter Pages Configuration Trends & Alarms Administration Step 2 - My_Layout 01 02 03 01 02 03 04 05 Reset Back Continue

No.	Action
5.	Click on the relevant symbol to set for the cells whether the web parts are to be arranged horizontally or vertically. Click the "Save" button.  SIEMENS WinCC / Datamonitor DATASERVER\ ReportAdmin Logoff WEBCENTER : CONFIGURATION : Create page Import page Delete page Create layout Delete layou Home Reports Webcenter Pages Configuration Trends & Alarms Administration Step 3 - My_Layout 01 02 03 01 02 03 04 05 Back Save
6.	Open the "Webcenter > Configuration > Create page" page.

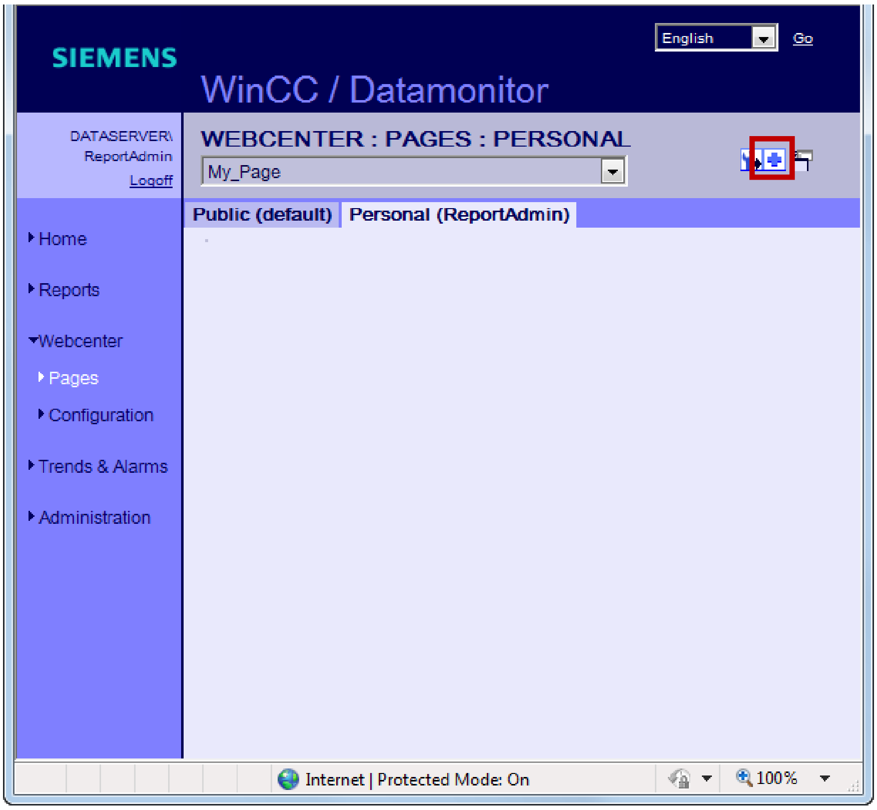
<table>
<tr><th>No.</th><th>Action</th></tr>
<tr><td>7.</td><td>Select the desired layout. Enter a name for the page in the "Webcenter page" field and select the directory in which the page is to be stored.


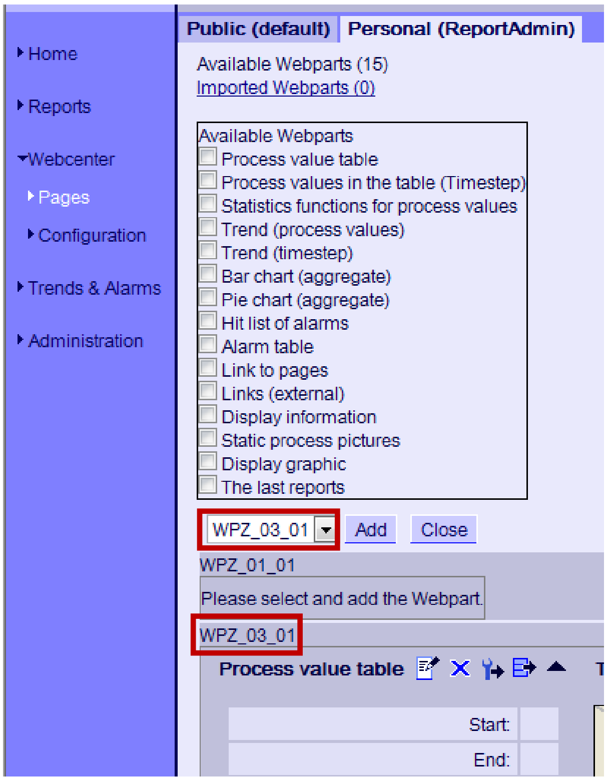
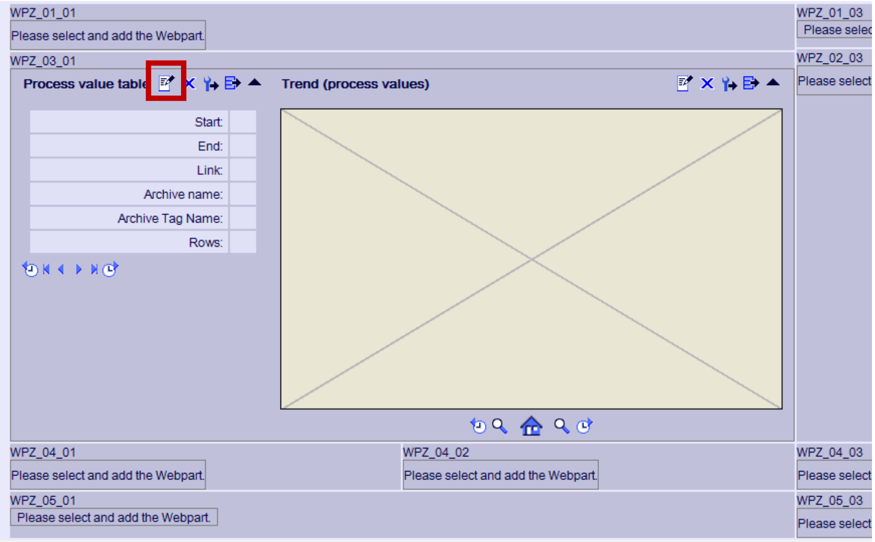
SIEMENS
WinCC / Datamonitor
DATASERVER\
ReportAdmin
Logoff
WEBCENTER : CONFIGURATION :
Create page
Import page
Delete page
Create layou
Home
Reports
Webcenter
Pages
Configuration
Trends & Alarms
Administration
001
002
003
My_Layout
Webcenter pages
Public (default)
Personal (ReportAdmin)
Save

Layout file: My_Layout.template
Webcenter page: My_Page
Save Webcenter page under: Personal (ReportAdmin)</td></tr>
<tr><td>8.</td><td>Open the "Webcenter > Pages" page. Open the directory in which you created the page. Click on the name of the page.


SIEMENS
WinCC / Datamonitor
DATASERVER\
ReportAdmin
Logoff
WEBCENTER : PAGES : PERSONAL
Public (default)
Personal (ReportAdmin)
My_Page
Home
Reports
Webcenter
Pages
Configuration
Trends & Alarms
Administration

</td></tr>
</table>

No.	Action
9.	Click the "+" button to add new web parts to the page.  SIEMENS WinCC / Datamonitor English Go DATASERVER\ ReportAdmin Logoff WEBCENTER : PAGES : PERSONAL My_Page Public (default) Personal (ReportAdmin) Home Reports Webcenter Pages Configuration Trends & Alarms Administration Internet | Protected Mode: On 100%

No.	Action
10.	Select the web parts and the cell in which the web parts are to be displayed and click the "Add" button. The assignment of the code designations (e.g., "WPZ_03_01", see figure) to the cells is indicated in the bottom part of the window.  Public (default) Personal (ReportAdmin) Home Reports Webcenter Pages Configuration Trends & Alarms Administration Available Webparts (15) Imported Webparts (0) Available Webparts ☐ Process value table ☐ Process values in the table (Timestep) ☐ Statistics functions for process values ☐ Trend (process values) ☐ Trend (timestep) ☐ Bar chart (aggregate) ☐ Pie chart (aggregate) ☐ Hit list of alarms ☐ Alarm table ☐ Link to pages ☐ Links (external) ☐ Display information ☐ Static process pictures ☐ Display graphic ☐ The last reports WPZ_03_01 Add Close WPZ_01_01 Please select and add the Webpart. WPZ_03_01 Process value table Start: End:
11.	Click on the "Edit web part properties" symbol.  WPZ_01_01 Please select and add the Webpart. WPZ_01_03 Please selec WPZ_03_01 Process value table Trend (process values) WPZ_02_03 Please select Start: End: Link: Archive name: Archive Tag Name: Rows: WPZ_04_01 Please select and add the Webpart. WPZ_04_02 Please select and add the Webpart. WPZ_04_03 Please select WPZ_05_01 Please select and add the Webpart. WPZ_05_03 Please select
12.	Define the properties of the web part and save the settings with "OK".
13.	You can also use the preconfigured pages "Process value table", "Trend (process values)", "Alarm table", "Hit list of alarms", and "Statistics functions for process values". These are available at "Trends & Alarms".

8 References

Table 8-1

	Title	Link
\1\	Siemens Industry Online Support	http://support.automation.siemens.com
\2\	Download page of the entry	http://support.automation.siemens.com/WW/view/de/87054082
\3\	WinCC Professional V13.0 Manual	http://support.automation.siemens.com/WW/view/en/92323076
\4\	Decentralized Operation of SIMATIC WinCC with Industrial Thin Clients	http://support.automation.siemens.com/WW/view/en/28309119
\5\	What should you watch out for when downloading WinCC Runtime Professional from the Engineering Station to the Operator Station?	http://support.automation.siemens.com/WW/view/en/88780011
\6\	Compatibility Tool	http://www.siemens.com/kompatool

9 History

Table 9-1

Version	Date	Modifications
V1.0	08/2014	First version
V1.0	10/2016	Limitation of multiple monitors by Runtime Professional added.