SIEMENS

SIMATIC HMI

WinCC/Audit V7.3
WinCC/Audit - Documentation

System Manual

Printout of the online help

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indicates that minor personal injury can result if proper precautions are not taken.

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Using Audit

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Introduction

WinCC/Audit is a WinCC option for monitoring WinCC configurations and user activities in WinCC Runtime.

Approved configurations

The following restrictions apply to Audit V7.3:

- The project opened in WinCC Explorer must be stored on a local PC drive.
- The "Client without own project" is not approved for Audit V7.3.

Components of Audit

Audit contains the following components:

Component	Description
Audit Editor	Specify Audit configurations.
Audit Runtime (RT)	Record events from the WinCC configuration and WinCC Runtime and save them as Audit Trails.
Audit Viewer	Show exported Audit Trails and Audit Trails from a database.
Audit Viewer Control	Display audit trails from a database in WinCC Runtime.
Audit Document Control and Project Versioning	Save and version WinCC project data.

Using Audit

Audit records WinCC engineering changes and user actions in runtime in so-called audit trails (audited events). The Audit Viewer allows the specific display and analysis of audit trails.

The document control allows the document management of WinCC screens, C and VBS functions, reports and user documents. You can use project versioning to archive complete WinCC projects and restore project versions.

Application examples

Audit supports operation and maintenance for the following users:

● Operators of validated plants in the pharmaceutical industry.

● Tracking & tracing for plant operators, for example, in the food and beverage industry.

● Serial equipment manufacturer with different versions of a central project.

● OEMs who maintain plants for their customers worldwide.

● Users who need to ensure gapless recording of operator actions for the purpose of traceability.

● Users who need to implement the requirements of the FDA (Food and Drug Administration).

Important information about the Audit Viewer

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Notes on the Audit Viewer

The Audit Viewer requires special Windows rights.

The Windows user using the Audit Viewer must be a member of the user group "SIMATIC HMI".

If WinCC is installed on a PC in addition to the Audit Viewer, the user group exists already.

"Standalone" Audit Viewer

The Audit Viewer can also be used as a "stand-alone installation" on a PC without WinCC.

The "SIMATIC HMI" user group is created locally with this installation in the Windows user and group management.

Note

The Windows user performing the Audit installation is automatically registered as a member of the "SIMATIC HMI" user group.

Additional Windows user using the Audit Viewer must be subsequently registered as members of the user group.

After registration in the user group, the Windows user has to log on again in Windows.

Audit basics

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3.1 Logon

Introduction

Logging on in Audit is performed through an authentication in "SIMATIC Logon".

Each Audit user has the same rights.

The following audit components require authentication:

- Audit Editor
- Audit Document Control and Project Versioning

If you do not authenticate yourself, the Audit components are opened read-only. This means that the not all of the Audit functions will be available.

You can authenticate yourself later via the shortcut menu in Audit Editor.

You can authenticate yourself later via the menu bar in Audit Document Control and Project Versioning.

Requirement

- "SIMATIC Logon" is installed on your computer.
- You are a member of the "SIMATIC HMI AUDIT" user group.

Procedure

1. Open the desired audit component.

   A SIMATIC Logon dialog appears.

2. Enter your user name and password.

3. Confirm your entries with "OK".

Result

You have authenticated yourself and can use all Audit functions.

3.2   Changing the interface language

Audit Editor

The interface language of the Audit Editor depends on the WinCC user interface language.

To change the interface language, select your desired language with
"Options > Language..." in the WinCC Explorer menu bar.

Audit Viewer, and Audit Document Control and Project Versioning

The user interface of the Audit Viewer, and Audit Document Control and Project Versioning can be set directly in the editors.

To change the interface language, select your desired language with "Options > Language" menu bar.

3.3 Audit components

3.3.1 Audit Editor

Function

You can use the Audit Editor to define the activities you would like to audit in your WinCC project:

- Activities in the individual WinCC components
- Activities in user and configuration files
- Runtime operation of objects

The settings in the Audit Editor are made with check boxes that you can select or clear.

The server of the Audit Trail database is also selected in the Audit Editor. The audit trails are stored in the Audit Trail database.

The configuration changes within the Audit Editor are also saved as audit trails in the Audit Trail database.

Open Audit Editor

When you open a WinCC project after installing the Audit Editor, the Audit icon appears in the navigation area. Double-click the Audit icon or open the Audit Editor from the shortcut menu.

Layout

The Audit Editor has the following layout:

①   Menu bar:

     The menu bar contains commands to perform common functions in the Audit Editor.

②   Quick search in the table area:

     The quick search enables you to search the table area for entries.

③   Navigation area:

     The navigation area displays objects of the Audit Editor in a tree view.

④   Table area:

     The table area displays the data records of the objects that are selected in the navigation area.

⑤   "Properties" window:

     The "Properties" window displays the properties of a data record.

⑥   Navigation bar:

     You can switch between the WinCC editors in the navigation bar.

⑦   Status bar:

     The status bar shows the various states of the Audit Editor.

Menu commands in the menu bar

The menu bar contains some of the commands that you can call in the Audit Editor. Commands that you cannot use in the current situation are disabled (displayed in gray). Commands that you can call from the shortcut menu are described in the individual sections in which they are used.

The following tables show the commands in the menu bar and their functions:

The "File" menu contains the following commands:

Command	Function
Project Documentation - Setup	No function.
Project Documentation - Preview	No function.
Project Documentation - Print	No function.
Close	Closes the Audit Editor.

The "Edit" menu contains the following commands:

Command	Function
Copy	No function.
Paste	No function.
Undo	No function.
Redo	No function.
Import	No function.
Export	No function.

The "View" menu contains the following commands:

Command	Function
Input language	No function.
Color scheme	Changes the color setting in the Audit Editor.

The "Help" menu contains the following commands:

Command	Function
Contents and Index	Opens the online help of the Audit Editor.
Info about WinCC Configuration Studio	Opens an information window for the WinCC Configuration Studio.

3.3.2 Audit Viewer

Function

The Audit Viewer is a viewer program for audit trails. You can view following with the Audit Viewer:

- Audit trails that are saved in an Audit Trail database
- Exported audit trails

You can limit your Audit Trail views using pre-defined queries. You can create and save your own queries.

Open Audit Viewer

Open the Audit Viewer by double-clicking on the Audit Viewer icon on your desktop. As an alternative, open the Audit Viewer via the Windows Start menu or "Apps".

Opening the Audit Viewer in the WinCC Explorer

When you open a WinCC project after installing the Audit Viewer, the Audit icon appears in the navigation area. Open the Audit Viewer from the shortcut menu.

Layout

The Audit Viewer has the following layout:
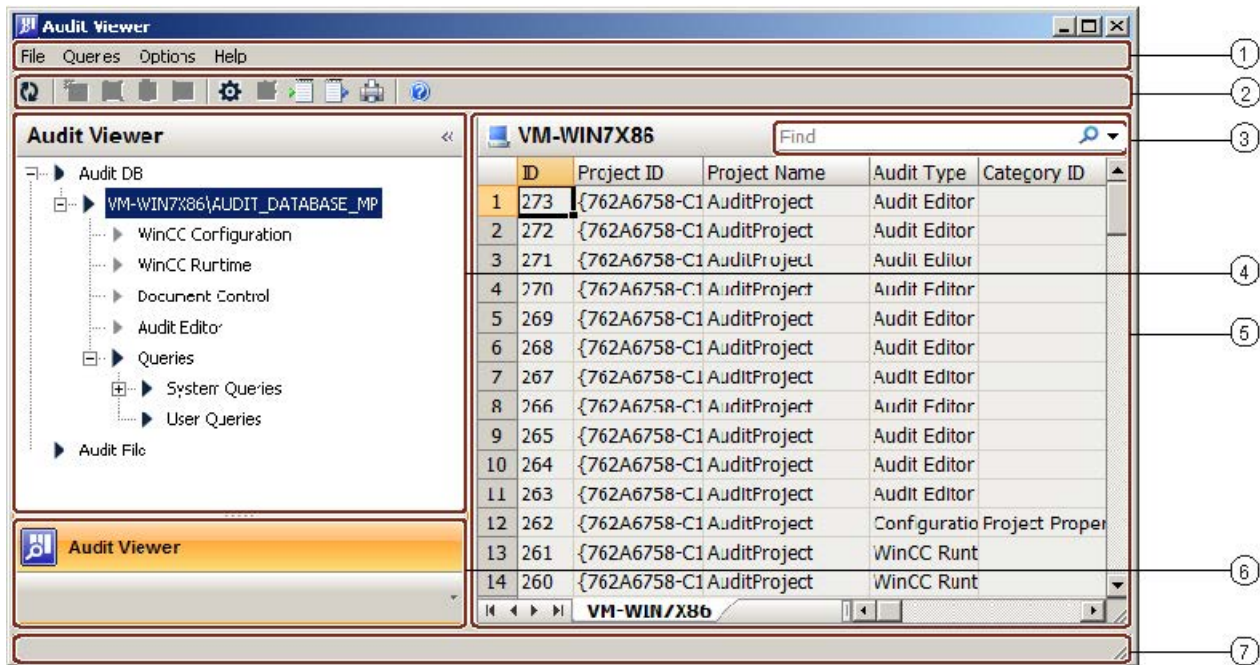
①   Menu bar:

     The menu bar contains commands to perform special functions in the Audit Viewer.

②   Toolbar:

     The toolbar contains buttons to perform special functions in the Audit Viewer.

③   Quick search in the table area:

     The quick search enables you to search the table area for entries.

④   Navigation area:

     The navigation area displays objects of the Audit Viewer in a tree view.

⑤   Table area:

     The table area displays the data records of the objects that are selected in the navigation area.

⑥   Navigation bar:

     The navigation bar shows the editor you are in.

⑦   Status bar:

     The status bar displays various information about the Audit Viewer.

Menu commands in the menu bar

The menu bar of Audit contains most of the commands that you can use in the Audit Viewer. Commands that you cannot use in the current situation are disabled (displayed in gray). Commands that you can call from the shortcut menu are described in the individual sections in which they are used.

The following tables show the commands in the menu bar and their functions:

The "File" menu contains the following commands:

Command	Function
Refresh	Refreshes the view in the table area.
Print	Prints the contents of the category or query that is selected in the navigation area.
Export to CSV file	Exports the selected audit trails to a CSV file.
Show Audit File	Displays a selected Audit file in the Audit Viewer.
Recent Servers	Lists the servers already in use.
Recent Files	Opens a list of recently opened files.
Close	Closes the Audit Viewer.

The "Queries" menu contains the following commands:

Command	Function
New Query	Creates a new query.
Delete	Deletes the selected query.
Rename	Renames the selected query.
Execute	Executes the selected query.

The "Options" menu contains the following commands:

Command	Function
Language	Changes the user interface language of the Audit Viewer.
Settings	The following settings can be made: • Maximum number of data records that can be saved in the table area. • Path to the user-defined queries.

The "Help" menu contains the following commands:

Command	Function
Contents and Index	Opens the online help of the Audit Viewer.
About	Opens an information window for the Audit Viewer.

Buttons in the toolbar

The toolbar in the Audit Viewer contains the following functions:

Icon	Tooltip	Function
	Refresh	Refreshes the view in the table area.
	New Query	Creates a new query.
	Delete	Deletes the selected query.
	Rename	Renames the selected query.
	Execute	Executes the selected query.
	Settings	The following settings can be made: • Maximum number of data records that can be saved in the table area. • Path to the user-defined queries.
	Close result view	Closes the result view in the table area after executing a query.
	Export to CSV file	Exports the selected audit trails to a CSV file.
	Show Audit File	Displays a selected Audit file in the Audit Viewer.
	Print	Prints the contents of the category or query that is selected in the navigation area.
	Help	Opens the online help of the Audit Viewer.

Meaning of the columns

Audit trails have a defined structure that is displayed in the Audit Viewer.

Column header	Meaning
ID	Sequential ID of the recorded audit trails.
Project ID	Audit ID of the audited WinCC project.
Project Name	Project name of the audited WinCC project.
Audit Type	Area from which the event originates.
Category ID	Change category
Subcategory ID	Subcategory of the change.
Target ID	ID from a WinCC database.
Target Name	Name of the changed element.
Specific Change ID	Type of change made.
Modification ID	Performed change.
Old Value	If a data change was made, the old value is displayed here.
New Value	If a data change was made, the new value is displayed here.
Date Time	Date and time information (local time) when the change was made.
Time Zone Offset	Time difference to Coordinated Universal Time (UTC).
Windows User	Name of the Windows user who performed the change.
Application User	Name of the application user who performed the change.
Computer Name	Computer name on which the change was made.
Operator Message ID	Message number
Reason	Comments or further information about the event.

Migrated audit trails are displayed in the following columns:

Column header	Meaning
Legacy Project GUID	Project ID of the audited WinCC project prior to V7.3.
Legacy Database Name	WinCC database name of the previous version of V7.3.
Legacy Application Name	Name of the application of the previous version of V7.3.
Legacy Table Name	Name of the SQL table of the previous version of V7.3.
Legacy Field Name	Field name of the previous version of V7.3.
Legacy Event Type	Performed change of the previous version of V7.3.
Legacy Event Item	Changed item of the previous version of V7.3.

3.3.3 Audit Viewer Control

Function

The Audit Viewer Control is an ActiveX control that is embedded in the Graphics Designer as an OCX file.

You can use the Audit Viewer Control in a process picture (.pdl) to view the stored audit trails and evaluate them in Runtime. The user interface is identical to the one in Audit Viewer. There is no menu bar, only the toolbar with a reduced number of icons. Exported audit trails cannot be displayed in the Audit Viewer Control.

You can find additional information under:

- Audit Viewer (Page 14)

3.3.4 Audit Document Control and Project Versioning

Function

Audit Document Control and Project Versioning contains the following functions:

- Versioning of projects and files
- Checking in and checking out individual files
- Restoring previous versions

All activities performed in Audit Document Control and Project Versioning can be saved as audit trails in the Audit Trail database. They first have to be configured in the Audit Editor.

Opening Audit Document Control and Project Versioning

When you open a WinCC project after installing the Audit Document Control and Project Versioning, the Audit icon ![icon] appears in the navigation area. Open Audit Document Control and Project Versioning in the shortcut menu, or double-click the Audit DCPV icon ![icon] on your desktop.

As an alternative, open Audit Document Control and Project Versioning with the Windows Start menu or "Apps".

Opening Audit Document Control and Project Versioning in the Audit Editor

You can also open the Audit Document Control and Project Versioning from the Audit Editor:

1. In the Audit Editor, click "Document Control and Project Versioning" under "Audit Settings" in the navigation area.
2. Select "Open" from the shortcut menu.

Layout

Audit Document Control and Project Versioning has the following layout:
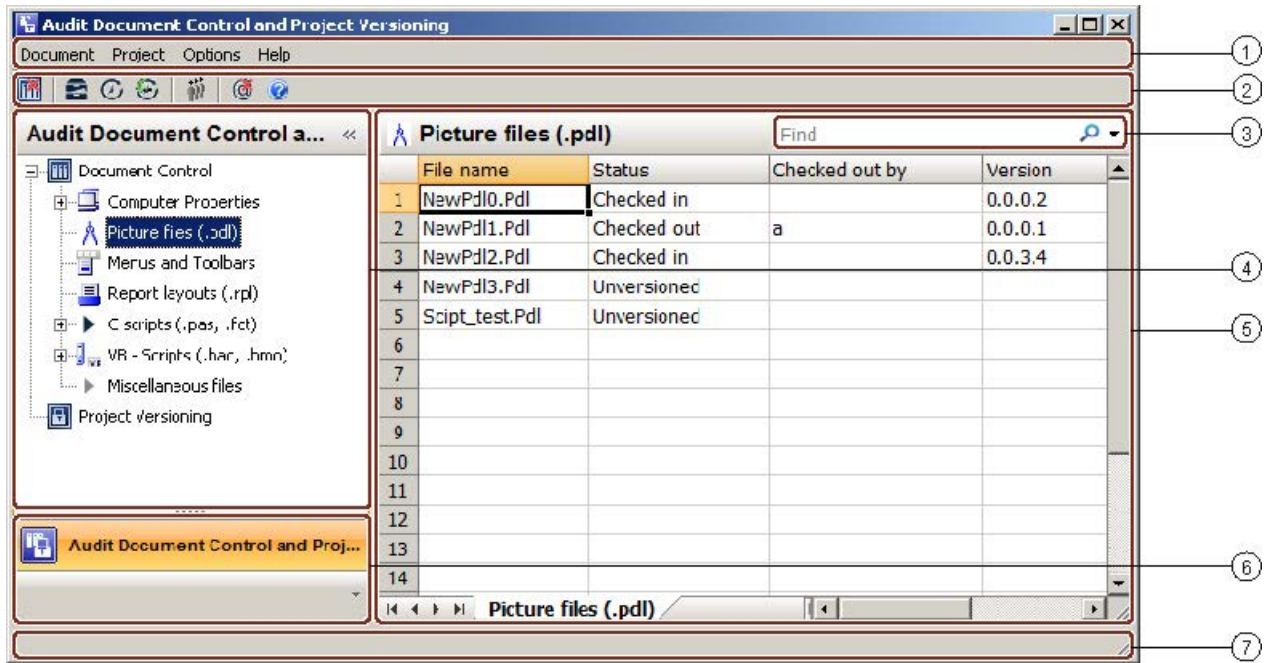
① Menu bar:

The menu bar contains commands to perform special functions in Audit Document Control and Project Versioning.

② Toolbar:

The toolbar contains buttons to perform special functions in Audit Document Control and Project Versioning.

③ Quick search in the table area:

The quick search enables you to search the table area for entries.

④ Navigation area:

The navigation area displays the objects of the editor in a tree view.

⑤ Table area:

The table area displays the data records of the objects that are selected in the navigation area.

⑥ Navigation bar:

The navigation bar shows the editor you are in.

⑦ Status bar:

The status bar displays various information about Audit Document Control and Project Versioning.

Menu commands in the menu bar

The menu bar of Audit contains most of the commands that you can use in the Audit Document Control and Project Versioning. Commands that you cannot use in the current situation are disabled (displayed in gray). Commands that you can call from the shortcut menu are described in the individual sections in which they are used.

The following tables show the commands in the menu bar and their functions:

The "Document" menu contains the following commands:

Command	Function
Enable Document Control	Activates the document control.
Disable Document Control	Deactivates the document control.
Close	Closes Audit Document Control and Project Versioning.

The "Project" menu contains the following commands:

Command	Function
Archive Project	Archives a WinCC project.
Current Project History	Displays the project history of the current WinCC project.
Complete Project History	Displays the project history of all archived WinCC projects.

The "Options" menu contains the following commands:

Command	Function
User Login	Login of the user.
User Logout	Logout of the user.
Language	Changes the user interface language of Audit Document Control and Project Versioning.

The "Help" menu contains the following commands:

Command	Function
Contents and Index	Opens the online help of Audit Document Control and Project Versioning.
About	Opens an information window for Audit Document Control and Project Versioning.

Buttons in the toolbar

The toolbar in Audit Document Control and Project Versioning contains the following functions:

Icon	Tooltip	Meaning
	Enable Document Control	Activates the document control.
	Disable Document Control	Deactivates the document control.
	Archive Project	Archives a WinCC project.
	Current Project History	Displays the project history of the current WinCC project.
	Complete Project History	Displays the complete project history of all archived WinCC projects.
	User Login	Login of the user.
	User Logout	Logout of the user.
	Show/hide system pictures (@ prefix)	Show WinCC project files that have the "@" prefix.
		Hide WinCC project files that have the "@" prefix.
	Help	Opens the online help of Audit Document Control and Project Versioning.

Basic procedure

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4.1 Working with WinCC/Audit

Procedure

In Audit Editor, the direct help for the selected field is available in the "Properties" window.

To manage and monitor a WinCC project or project data in Audit, follow the steps of the procedure.

You must be authenticated to work with the Audit Editor.

Note

WinCC Audit ChangeControl CC license

If you have installed only the WinCC Audit ChangeControl CC license, the Audit Editor includes only the "WinCC Configuration" and "WinCC Documents" components under "Audit Settings".

Step 1: Connect the Audit Trail server

1. To display the Audit Trail servers, click "Select Audit Trail server" in the navigation area.

2. Select the Audit Trail server on which the Audit Trail Database is located or is going to be created.

   To do so, select the entire table row.

3. Select "Select Server" in the shortcut menu.

Step 2: Specify WinCC components for auditing

1. Click "Audit Settings" in the navigation area.

2. In the "WinCC Configuration" line, select the check box in the "Activated" column.

3. To specify the monitoring for individual WinCC components, click "WinCC Configuration" under "Audit Settings" in the navigation area.

4. Select or clear the check box for the respective component in the "Activated" column.

   To activate or deactivate all components, select the column "Activated" and select "Select all" or "Deselect all" in the shortcut menu.

Step 3: Activate document monitoring

1. Activate the "WinCC Documents" component under "Audit Settings".

The following events are saved in the Audit Trail database for the monitored documents:

- Create
- Edit
- Delete

Step 4: Enable document control and archive WinCC projects

1. To open the editor, under "Audit Settings" in the navigation area select the "Open" command in the shortcut menu of "Audit Document Control and Project Versioning".

2. Log in with your user name and password.

3. In the open editor, select "Document > Enable document control".

4. In the "Version configuration" dialog, configure the version number in the fields "Version mask" and "Special characters".

5. Select the required category under "Document Control" in the navigation area.

   The WinCC files are listed in the table area and can be checked in or out.

6. To create a WinCC project, select "Project > Archive Project" in the menu bar.

   You can display all WinCC projects and project versions. To do so, select "Project > Complete project history" in the menu bar.

You can find additional information in the online help of the "Audit Document Control and Project Versioning" editor.

Use the Audit Editor again for the following steps.

Step 5: Activate User Archive Runtime for auditing

Requirement: You are using the WinCC option "User Archive".

1. To monitor the value change in the user archives, activate the "User Archive (RT)" component under "Audit Settings".

Step 6: Monitoring user actions

1. Activate the "User Actions (RT)" component under "Audit Settings".

The following actions are audited:

- Messages

  - Standard operator messages that are output with process picture operations if the "Operator Message" property is activated or a direct connection is configured.

  - User operator messages which are triggered by message tags, C script or VB script (standard "GCreateMyOperationMsg" function or "HMIRuntime.Alarms" method).

  - System events (e.g., login, logout, login failed)

  - Messages from the message number range from 1900000 to 1901000

- Scripting

  - InsertAuditEntryNew

    Audit saves all events directly to the Audit Trail Database with the "InsertAuditEntryNew" function.

Additional information can be found in the Audit documentation and the WinCC documentation.

Step 7: Activate / deactivate the "Operator Message" and "Operator Activities Report" property

You can activate or deactivate the property "Operator Message" and "Operator Activities Report" for specific graphic objects. You activate or deactivate the properties in the Graphics Designer or in the Audit Editor as follows:

1. Activate the "User Actions (RT)" component under "Audit Settings".

2. Select "Audit Settings > User Actions (RT)" in the navigation area.

3. Select the required process pictures in the table area.

4. Select the required process picture under "User actions (RT)" in the navigation area.

5. In the table area, activate or deactivate the required option for the displayed objects.

   To apply the change, click on another area in the navigation area or close the Audit Editor.

   These settings are applied to the object properties in the Graphics Designer.

   When you change the setting in the Graphics Designer, the option is also activated or deactivated in the Audit Editor.

Note

Update view

When a new process picture is created or new objects are inserted in a process picture, the view is not automatically updated in the Audit Editor.

To update the view, follow these steps:

- Display new process picture: Select the "Refresh" command in the "User Actions (RT)" shortcut menu.
- Display new object in the process picture: Right-click the modified process picture under "User Actions (RT)".

Additional information can be found in the Audit documentation and the WinCC documentation.

Step 8: Displaying Audit Trails

1. Select the command "Open Audit Viewer" in the "Audit" shortcut menu of the WinCC Explorer or click the "Audit Viewer" desktop icon.

2. In the table area, select the server with the required Audit Trail database under "Audit DB" in the open viewer.

   To do so, select the entire table row.

3. Select "Select Server" in the shortcut menu.

4. To limit the display to specific events, for example, use the offered queries under "System queries" or create your own query.

You can find additional information in the online help of the Audit Viewer.

Step 9: Configuring Audit Viewer Control for display in WinCC Runtime

To display the content of the Audit Trail Database in WinCC Runtime, add the "Audit Viewer Control" in a process picture in the WinCC Graphics Designer.

Notes on the Audit Editor

Compared to the default behavior of the WinCC Configuration Studio, the Audit Editor has the following modified behavior:

Navigation	Entry	Behavior in the Audit Editor
Menu bar	Edit > Import	No function
Menu bar	Edit > Export	No function
Menu bar	Edit > Paste	No function
Menu bar	View > Input language	No function
Table area, e.g., Audit Trail Server	"Delete" shortcut menu	No function
Table area: Selected row or column	"Cut" / "Paste" shortcut menu	No function
Table area: Selected row or column	"Find and replace" shortcut menu	"Find" can be used. No function: "Replace"
Table area	Automatic continuation ("drag-down")	No function

4.2 Working with the Audit Viewer

Procedure

To display the events saved in the Audit Trail database in the Audit Viewer, follow the steps in the procedure.

Step 1: Connect the Audit Trail database

1. In the navigation area, select "Audit DB".

2. In the table area, select the server with the required Audit Trail Database.

   To do so, select the entire table row.

3. Select "Select Server" in the shortcut menu.

The selected Audit Trail server with the connected database is displayed under "Audit DB" in the navigation area.

Step 2: Display audit trails

1. Click the connected server with the Audit Trail database under "Audit DB" in the navigation area.

   You can see the events of the Audit Trail database in the table area.

2. To configure the number of displayed rows, select "Options > Settings" in the menu bar.

3. To display the events in a sorted manner, select the required category below the Audit Trail database.

Step 3: Filter audit trails with system queries

1. Select "Audit DB > <Audit Trail Server\Database> > Query > System Query" in the navigation area.

2. Select the required system query.

3. Select "Execute" in the shortcut menu.

Step 4: Filter audit trails with user queries

1. Select "Audit DB > <Audit Trail Server\Database> > Query > User Query" in the navigation area.

2. In the shortcut menu, select "New Query".

3. Define your query in the table area.

   The next field to be processes is always identified by an asterisk. The Audit Viewer supports you in creating the query using drop-down lists in the fields.

4. Select your created query in the navigation area.

5. Select "Execute" in the shortcut menu.

Notes on the Audit Viewer

Compared to the default behavior of the WinCC Configuration Studio, the Audit Viewer has the following modified behavior:

Navigation	Entry	Behavior in the Audit Viewer
Menu bar	File > Print	No function
Table area: Selected row or column	"Delete" shortcut menu	No function
Table area: Selected row or column	"Cut" / "Paste" shortcut menu	No function
Table area: Selected row or column	"Find and replace" shortcut menu	"Find" can be used. No function: "Replace"
Table area	Automatic continuation ("drag-down")	No function

4.3 Working with Document Control and Project Versioning

Procedure

To create and manage file versions and project versions, follow the steps of the procedure.

You must be authenticated to work with Audit Document Control and Project Versioning.

Step 1: Enable document control and configure versioning

1. Select "Document > Enable document control" in the menu bar.

2. In the "Version configuration" dialog, configure the version number in the fields "Version mask" and "Special characters".

The files included in the open WinCC project are checked in and must be checked out for editing.

Step 2: Check out file

1. Select the required category under "Document Control" in the navigation area.

2. In the table row, select the file you want to check out.

3. Select "Check Out" in the shortcut menu.

4. You have the option to enter a comment and confirm with "Check out".

Step 3: Check in file

1. Select the required category under "Document Control" in the navigation area.

2. In the table row, select the file you want to check in.

3. Select "Check In" in the shortcut menu.

4. Enter a comment or apply the existing comment.

5. Confirm with "Check in" to apply the automatically incremented version number.

   If you want to continue versioning with a new, higher-level segment, deactivate the "Automatic versioning" option and select the corresponding segment.

Step 4: Archiving and versioning an open WinCC project

1. Select "Project > Archive Project" in the menu bar.

2. Make sure that the "Archive Current Project" option is activated.

   If versioning has not been configured yet, the "Version configuration" dialog opens. Configure the versioning.

3. Enter a comment.

4. Confirm with "Archive" to apply the automatically incremented version number.

   If you want to continue versioning with a new, higher-level segment, deactivate the "Automatic versioning" option and select the corresponding segment.

Step 5: Archiving and versioning a closed WinCC project

Requirement: The version configuration for the closed WinCC project has already been completed.

1. Select "Project > Archive Project" in the menu bar.

2. Deactivate the "Archive Current Project" option and navigate to the storage path of the required WinCC project.

3. Enter a comment.

4. Confirm with "Archive" to apply the automatically incremented version number.

   If you want to continue versioning with a new, higher-level segment, deactivate the "Automatic versioning" option and select the corresponding segment.

Step 6: Restore version

1. To restore an archived project version, for example, select "Project Versioning" in the navigation area.

2. Select the table row of the required project.

3. Select "View Project History" from the shortcut menu.

4. Select the table row of the required version.

5. Select "Restore" from the shortcut menu.

6. Select the storage location and confirm with "OK".

Notes on Audit Document Control and Project Versioning

Compared to the default behavior of the WinCC Configuration Studio, the Audit Document Control and Project Versioning editor has the following modified behavior:

Navigation	Entry	Behavior in Audit Document Control and Project Versioning
Table area: Selected row or column	"Delete" shortcut menu	No function
Table area: Selected row or column	"Cut" / "Paste" shortcut menu	No function
Table area: Selected row or column	"Find and replace" shortcut menu	"Find" can be used. No function: "Replace"
Table area: Selected row or column	"Configuration dialog" shortcut menu	Same behavior as the "Check Out and Edit" function.
Table area: Double-click selected row	-	Same behavior as the "Check Out and Edit" function.
Table area	Automatic continuation ("drag-down")	No function

Working with Audit

<div style="text-align: right; font-size: 2em;">5</div>

5.1 Configuring the Audit Trail database

5.1.1 Audit Trail multi project database

Audit Trail multi project database

You have one or more PCs running one or more WinCC projects that you want to audit.

In this case, create an Audit Trail multi project database. All audit trails are stored in one database.

If there is no network connection between the PCs over a certain period, your audit data is not lost. Audit stores the audit trails in a local cache. When the network connection is re-established, the audit trails are automatically transferred to the multi project database.

You can also set up a central Audit multi project database on a PC on which there is no WinCC project. At least a minimal installation of WinCC and Audit Runtime must be installed on this PC.

Note

Switching the Audit Trail multi project database to another Audit Trail multi project database

If you switch from one Audit Trail multi project database to another Audit Trail multi project database, your recorded audit trails are not transferred.

Requirement

- Audit is fully installed and licensed.
- A network connection is available.

Procedure

1. Open the WinCC project that you want to audit.
2. Open the Audit Editor and authenticate yourself.
3. In the navigation area, select "Select Audit Trail Server".

   The table area displays all Audit Trail servers on which at least Audit Runtime is installed.
4. Select the table row of the desired Audit Trail server in which the database type is "Multi project database".
5. Select "Select Server" in the shortcut menu.

Result

Your PC is connected to the desired Audit Trail server on which there is a multi project database.

5.1.2 Audit Trail single project database

Audit Trail single project database

You have a PC running a single WinCC project (single project) that you want to audit. Your WinCC project is not additionally running on another PC.

In this case, create an Audit Trail single project database.

Note

Audit Trail multi project database

If you want to access from multiple PCs or access multiple WinCC projects in the same database, connect to an Audit multi project database.

You can find additional information under:

- Audit Trail multi project database (Page 33)

Changing the Audit Trail database

If you switch from one Audit Trail single project database to an Audit Trail multi project database, your recorded audit trails are not transferred.

Requirement

- Audit is fully installed.

Procedure

1. Open the WinCC project that you want to audit.

2. Open the Audit Editor and authenticate yourself.

3. In the navigation area, select "Select Audit Trail Server".

   The table area displays all Audit Trail servers on which at least Audit Runtime is installed.

4. Select the table row of the desired Audit Trail server in which the database type is "Single Project Database".

5. Select "Select Server" in the shortcut menu.

Result

Your PC is connected to the desired Audit Trail server on which there is a single project database.

5.2 Monitoring a WinCC project with Audit

Specify the components that you want to audit in the Audit Editor.

All settings in the Audit Editor are also saved as audit trails in the Audit Trail database.

If you have not yet configured an Audit Trail database and have already made settings in the Audit Editor, these activities are not audited.

First, configure the Audit Trail database to record future activities in the Audit Editor in the Audit Trail database.

You can find additional information under:

● Configuring the Audit Trail database (Page 33)

5.2.1 Making Audit settings

Introduction

Specify what you want to monitor with Audit in the Audit Editor under "Audit Settings". To enable the settings, select the check boxes.

Audit settings	Description
WinCC configuration	Monitor a WinCC configuration in Audit.
WinCC documents	Monitor changes to the WinCC project files.
User archives (RT)	Monitor changes within a user archive, such as value changes.
User Actions (RT)	Monitor user actions in WinCC Runtime.

Requirement

● Your WinCC project is open.

● The Audit Editor is open and you have authenticated yourself.

Procedure

1. Click "Audit Settings" in the navigation area.

2. Select the check box for the respective component in the "Activated" column. To activate or deactivate all components, select the "Activated" column and then select "Select all" in the shortcut menu.

Result

You have made the Audit settings. You can to deactivate the respective components by clearing the check box in the "Activated" column.

In the next step, you specify which WinCC editors or WinCC components are to be monitored.

5.2.2   Specify WinCC components for auditing

Introduction

Specify the WinCC components that you want to monitor in the Audit Editor.

Select the following WinCC components:

- WinCC Project Properties
- Computer Properties
- Tag Management
- Alarm Logging
- Tag Logging
- Text Library
- User Administration
- User Archives [1]
- Report Designer
- Redundancy
- Time Synchronization
- Picture Tree Manager

[1] Only the configuration is monitored, not the data input.

Requirement

- Your WinCC project is open.
- The Audit Editor is open and you have authenticated yourself.
- Activate the "WinCC Configuration" component under "Audit Settings".

Procedure

1. Click "WinCC Configuration" under "Audit Settings" in the navigation area.
2. Select the check box for the respective WinCC component in the "Activated" column. To activate or deactivate all WinCC components, select the "Activated" column and then select "Select all" in the shortcut menu.

Result

You have specified the WinCC components for auditing. You can to deactivate the respective WinCC components by clearing the check box in the "Activated" column.

5.2.3 Activate document monitoring

Introduction

When you activate document monitoring, all activities in user and configuration files are recorded as an events in the Audit Trail database.

Audit monitors the following:

- Creation of a document
- Changes to a document
- Deletion of a document

Overview

The following table shows the user and configuration files for which document monitoring can be performed:

User files and configuration files	Formats, file types
Computer properties	Gracs.ini
Picture files	PDL
Menus and toolbars	MTL
Report layouts	RPL
C scripts	PAS (actions)
	FCT (project functions)
VB Scripts	BAC (actions)
	BMO (project modules)
Redundancy path settings	Data.cs
Alarm logging settings	CCAlarmFilterStorage.xml

Requirement

- Your WinCC project is open.
- The Audit Editor is open and you have authenticated yourself.

Procedure

1. Click "Audit Settings" in the navigation area.
2. Select the check box for the "WinCC Documents" component in the "Activated" column of the table area.

Result

You have activated document monitoring. You can to deactivate the document monitoring by clearing the check box in the "Activated" column.

See also

Saving and versioning external data (Page 58)

5.2.4 Monitoring user actions with Audit

5.2.4.1 User actions monitored with Audit

Audit allows you to monitor user activity in WinCC Runtime.

Audit monitors the following actions:

- Messages
  - Standard and user operator messages
  - Messages from a message number range
  - System events
- Scripting
  - InsertAuditEntryNew

5.2.4.2 Standard operator messages

Standard operator messages are messages that are pre-defined in a WinCC project in Alarm Logging by default.

Standard operator messages have the following properties:

- Message class: System, without acknowledgment
- Message type: Operator message
- Message number: 12508141

You can trigger a standard operator message for a process picture operation via:

- "Operator message" property
- Direct connection

"Operator message" property

You can enable the "Operator message" property for a required object in the Graphics Designer.

You can enable the "Operator message" property for the following object types:

- I/O field
- Text list
- Combo box
- List box
- Check box
- Radio box
- Slider

Message number 12508141 is generated when the configured object is operated in WinCC Runtime.

Audit stores this event in the Audit Trail database.

"Operator activities report" property

In addition to "Operator Message" property, you can set the "Operator Activities Report" property for the following object types:

- I/O field
- Text list
- Combo box
- List box
- Slider

When the configured object is operated in WinCC Runtime, the operator is prompted to enter a comment regarding the change. Message number 12508141 is generated with the comment.

Audit stores this event in the Audit Trail database.

Direct connection

For all other types of objects in the Graphics Designer, there is no "Operator message" or "Operator activities report" property. Set an action with a direct connection to a tag for the desired object. Select the "Operator message" option in the direct connection dialog.

Message number 12508141 is generated when the configured object is operated in WinCC Runtime.

Audit stores this event in the Audit Trail database.

5.2.4.3 User operator messages

User operator messages are messages that you create in Alarm Logging.

Audit monitors user operator messages with the following properties:

- Message class: System, without acknowledgment
- Message type: Operator message
- Message number: any

You can trigger a user operator message for a process picture operation via:

- Message tag
- C script function "GCreateMyOperationMsg"
- VB script function "HMIRuntime.Alarms"

You can find additional information in the WinCC Information System under Working with WinCC".

The message number of the created user operator message is generated when the configured object is operated in WinCC Runtime.

Audit stores this event in the Audit Trail database.

Message tag

Assign a "Message tag" to the user operator message. Connect the required object to the message tag in Alarm Logging.

C script function "GCreateMyOperationMsg"

Define an action with a C script for a desired object in the Graphics Designer. Use the "GCreateMyOperationMsg" function.

Example for "GCreateMyOperationMsg"

```
GCreateMyOperationMsg(0x00000001,1,lpszPictureName,lpszObjectName,15,1,2,"mycomment");
```

VB script function "HMIRuntime.Alarms"

Define an action with a VB script for a desired object in the Graphics Designer. Use the "HMIRuntime.Alarms" function.

Example for "HMIRuntime.Alarms"

```
'VBS360
Dim MyAlarm
Set MyAlarm = HMIRuntime.Alarms(1)
MyAlarm.State = 5 'hmiAlarmStateCome + hmiAlarmStateComment
MyAlarm.Comment = "MyComment"
MyAlarm.UserName = "Hans-Peter"
MyAlarm.ProcessValues(1) = "Process Value 1"
MyAlarm.ProcessValues(4) = "Process Value 4"
MyAlarm.Create "MyApplication"
```

5.2.4.4 Messages from a message number range

Audit monitoring messages from 1900000 to 1901000.

Message numbers from 1900000 to 1900050

The message numbers 1900000 to 1900050 are reserved for WinCC options and add-ins. This includes, for example, the electronic signature.

These message numbers cannot be edited.

You can find additional information in the WinCC Information System under:

● "Working with WinCC > Structure of the User Administration > Central user administration with SIMATIC Logon".

Message numbers from 1900051 to 1901000

Audit controls messages with message numbers from 1900051 to 1901000 of any message type.

You can trigger a message for a process picture operation via:

● Message tag

● C script function "GCreateMyOperationMsg"

● VB script function "HMIRuntime.Alarms"

You can find additional information under:

● User operator messages (Page 42)

5.2.4.5 System events

System events are messages that are pre-defined in a WinCC project in Alarm Logging by default.

System events have the following properties:

- Message class: System, without acknowledgment

- Message type: Process control system

Audit monitors the system events:

Message number	Description
1008000	Connection to chipcard-terminal has been interrupted
1008001	Incorrect login name/password
1008002	Invalid login name/password by chipcard
1008003	Manual login
1008004	Login by chipcard
1008005	Manual logout
1008006	Logout by chipcard
1008007	Automatic logout by timeout
1008008	Notification of service user/group '@102%s@' in effect

5.2.4.6 InsertAuditEntryNew

"InsertAuditEntryNew" is a script function that is used in an object in the Graphics Designer. When the object is operated in WinCC Runtime, the event is immediately saved in the Audit Trail database.

InsertAuditEntryNew functions

Use the following InsertAuditEntryNew functions:

Function	Description
InsertAuditEntryNew.fct	Function for C script.
InsertAuditEntryNew.bmo	Function for VB script.

InsertAuditEntryNew in the Script Editor or in the Graphics Designer

C Editor/Graphics Designer

You can find the InsertAuditEntryNew function in the navigation area under "Standard Functions > Options".

VBS Editor/Graphics Designer

You can find the InsertAuditEntryNew function in the navigation area under "Standard Modules".

Example of a simple script

Comment in Runtime

You can use a script to decide whether to open a comment dialog in runtime or use the comment directly from the scripting.

When a comment dialog is used, the user is prompted to enter a comment in runtime. Enter "1" after the "Comment" parameter to do this.

To use the comment directly from the script, write a comment at the "Comment" parameter and enter "0" after the parameter.

The following table shows the various script options and the view in Audit Trail:

Comment	Show in Audit Trail	Example script
Show comment dialog in runtime.	The comment entered in the dialog is recorded in Audit Trail.	"Comment", 1
Use comment from script.	The comment entered for the "Comment" parameter is recorded in Audit Trail.	"Comment", 0

C script: InsertAuditEntryNew.fct

```
char* szBuf = (char*)SysMalloc(128);
InsertAuditEntryNew("old Value","new Value", "Comment", 0, szBuf);
SysFree(szBuf );
```

VBS script: InsertAuditEntryNew.bmo

```
InsertAuditEntryNew "old Value", "new Value", "Comment", 0
```

5.2.4.7 Monitoring user actions with Audit

Introduction

Monitor user activities in WinCC Runtime.

You can find additional information under:

- User actions monitored with Audit (Page 40)

Requirement

- Your WinCC project is open.
- The required configurations have been made in the Alarm Logging or Tag Logging, for example, system events have been enabled, operator messages have been configured, etc.
- "Alarm Logging Runtime" is enabled under "Computer Properties > Startup" in the WinCC Explorer.
- The Audit Editor is open and you have authenticated yourself.

Procedure

1. Click "Audit Settings" in the navigation area.
2. Select the check box for the "User Actions (RT)" component in the "Activated" column of the table area.

Result

You have activated the "User Actions (RT)" component. You can deactivate the component by re-selecting the check box in the "Activated" column.

5.2.4.8 Activate / deactivate the Operator Message and Operator Activities Report property

Introduction

Audit provides an additional function for the activation and deactivation of the "Operator message" and "Operator activities report" property for the standard operator messages.

You get an overview of all of the Audit Editor process pictures and their configured objects in your WinCC project.

You can find additional information under:

- Standard operator messages (Page 40)

Requirement

- Your WinCC project is open.
- "Alarm Logging Runtime" is enabled under "Computer Properties > Startup" in the WinCC Explorer.
- The Audit Editor is open and you have authenticated yourself.

Procedure

1. Click "Audit Settings" in the navigation area.
2. Select the check box for the "User Actions (RT)" component in the "Activated" column of the table area.
3. Select "User Actions (RT)" in the navigation area.

   The table area shows all process pictures that have been created in the open WinCC project.

   If a newly created process picture does not appear in the table area, select the "Refresh" command in the "User Actions (RT)" shortcut menu.

4. Select the process picture that contains the object type of a standard operator message.

   The activated process picture is displayed under "User Actions (RT)" in the navigation area.

5. Select the process picture in the navigation area.

   The configured objects in the process picture are displayed in the table area.

6. Select or clear the check boxes of the "Operator message" and "Operator Activities Report" column.

   If a newly created object does not appear in the Audit Editor, right-click on the change process picture under "User Actions (RT)".

   To apply the change in the check box, click on another area in the navigation area or close the Audit Editor.

If no object type of a standard operator message is present in the process picture, this option has no effect.

Note

Saving an open PDL in the Graphics Designer

If the PDL is open in the Graphics Designer when a change is being made in the Audit Editor, save the picture to keep the changes.

Result

These changes are transferred and saved in the PDL.

5.3 Saving and versioning WinCC project data.

Introduction

Audit Document Control and Project Versioning allows you to back up your WinCC project files and archive your WinCC projects.

To back up your WinCC project files, you first need to enable document control.

When you enable document control or archive an open project the first time, you must set the version number.

Principle of document control

You can perform the following functions after enabling document control:

● Check in WinCC project files

● Check out WinCC project files

● Restore WinCC project files

● Compare WinCC project files with each other

When you enable document control, all WinCC project files are automatically checked into your open WinCC project.

Note

Restoring WinCC project files

Restoring overwrites the current version with the new version.

Editing and creating files in WinCC

To edit a file, you must first check it out in Audit Document Control and Project Versioning. Only then can the file be edited with the appropriate WinCC editors.

When you create a new file, the file is displayed as "Unversioned" in the Audit Document Control and Project Versioning. Check in the file to save it.

All check-in operations as well as file restorations are displayed in the file history.

NOTICE

Loss of data with deactivation of the document control

When you deactivate document control, all archived WinCC project files are lost.

Changing computer properties

If you want to change the computer properties when document control is activated, you need to check out the "GraCS.ini" file in the navigation area under
"Document Control > Computer". Only then can you make changes in the "Graphics Runtime" and "Runtime" tabs.

User and configuration files

The following table shows the user and configuration files for which document control can be performed:

User files and configuration files	Formats, file types
Computer properties	Gracs.ini
Picture files	PDL
Menus and toolbars	MTL
Report layouts	RPL
C scripts	PAS (actions)
	FCT (project functions)
VB Scripts	BAC (actions)
	BMO (project modules)
Miscellaneous files	Custom files that are stored in the project path under "Misc Docs (Document Control)".[1]

[1] You can find additional information under:

● Saving and versioning external data (Page 58)

Principle of project versioning

You can perform the following actions using project versioning:

● Archive WinCC projects

● Restore WinCC projects

Note

Restoring WinCC projects

Restoring copies the selected version of the archived WinCC project to the destination path.

Storage paths of archive files

Archive files of the WinCC project files

When a WinCC project file is checked in, Audit creates a compressed GZ file and stores it in the "Document Control" folder. This folder is created automatically in your WinCC project folder.

Archive files of the WinCC projects

When a WinCC project is archived, Audit creates a compressed GZ file and stores it locally in the following path:

● <Public Documents>\Siemens\Audit\AuditDCV

You can navigate to another archive path when archiving a WinCC project.

NOTICE
Data loss when changing archive files
When you make changes to the archive files, data loss will occur. This means it is no longer possible to restore the WinCC project files or WinCC projects in Audit Document Control and Project Versioning. You may not make the following changes: • Delete • Rename • Move

See also

WinCC project files (Page 54)

WinCC projects (Page 59)

5.3.1 Enable Document Control

Introduction

If you enable document control, you will be prompted once to configure the version number.

First read the following section carefully:

- Configuring the version number (Page 52)

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.

Procedure

1. Select "Document > Enable Document Control" from the menu bar or click on the "Enable document control" icon in the toolbar.

   The "Version configuration" dialog opens.

2. Select the version mask and the special characters.

3. Confirm your entries with "OK".

Result

All the files in your WinCC project are automatically checked in according to the versioning mask in Audit Document Control and Project Versioning.

5.3.2 Configuring the version number

Introduction

In Document Control and Project Versioning, you define the version number that is used with every versioning of files and projects. The version number consists of 4 segments. When a file is checked in or when a project is archived, the segments of the version number are incremented, depending on which version mask you have selected.

Note

The versioning is configured only once for each WinCC project and cannot be changed.

Defining the version mask and delimiter

When you enable document control, you are prompted to configure the version number. Select from the following version masks:

Version mask	Definition
PP.DD.DD.DD	Project_version.Document_version.Document_version.Document_version
PP.PP.DD.DD	Project_version.Project_version.Document_version.Document_version
PP.PP.PP.DD	Project_version.Project_version.Project_version.Document_version

Select the delimiter from the following special characters:

. , : ; - + * #

File versioning

File versioning depends on your open WinCC project. Document Control and Project Versioning displays all existing files in the project. If you have not enabled document control, you will see your files in the table area with the "Unversioned" status. If you enable document control via the menu bar, you are prompted to configure the version number. When the configuration is complete, all WinCC files are checked in automatically. The back segment of each file gets a 1.

If you check in a file again, the segment of the file version is increased. You can select which segment of the file version should be increased.

Examples with version mask PP.PP.DD.DD:

Example	Old version	New version
Back segment of the file version is increased during checking in.	0.0.0.1	0.0.0.2
Front segment of the file version is increased during checking in.	0.0.0.1	0.0.1.0

Example	Old version	New version
The WinCC project was archived. After checking out the file and then checking it back in, the file version starts again at 1.	0.0.0.5	0.1.0.1
Multiple files with different version number are checked in at the same time. The file with the highest version number is used as a base.	File_xy: 0.0.0.4 File_yz: 0.0.0.8	File_xy: 0.0.0.9 File_yz: 0.0.0.9

Maximum number of file versions reached

When all segments of the file versions have reached 99, you must archive the WinCC project again. The file version starts again at 1 when it is checked in again.

When a file is checked out and a new project version is archived, the file remains checked out. After the file is checked in again, it gets the new version number.

You can find additional information under:

● WinCC project files (Page 54)

Project versioning

Project versioning depends on your open WinCC project.

When you archive the project for the first time, the segment of the project version starts at 1. You can select which segment of the project version should be increased.

Examples with version mask PP.PP.DD.DD:

Example	Old version	New version
Back segment of the project version is increased during checking in.	0.1.0.0	0.2.0.0
Front segment of the project version is increased during checking in.	0.2.0.0	1.0.0.0

Maximum number of project versions reached

When all segments of the project versions have reached 99, you must save the WinCC project with a new name using the Project Duplicator. Then, archive the WinCC project again in Document Control and Project Versioning. The project version starts again at 1.

You can find additional information under:

● WinCC projects (Page 59)

5.3.3 WinCC project files

5.3.3.1 Checking out project files

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.
- Document control is enabled.
- The version number has been configured.

Procedure

1. Select the category of your required file under "Document Control" in the navigation area.
2. Select the row of the file you want to check out in the table area.
3. Select "Check Out" in the shortcut menu to check out the file.
4. To check out the file and immediately begin editing with the associated application, select "Check Out and Edit" in the shortcut menu.
5. Enter a checkout comment if you wish.

Result

Your file is checked out. The status of the file in the Audit Document Control and Project Versioning is "Checked out". The user who authenticated the Audit Document Control and Project Versioning appears in the "Checked out by" column.

5.3.3.2 Check in project files

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.
- Document control is enabled.
- The version number has been configured.

Procedure

1. Select the category of your required file under "Document Control" in the navigation area.
2. In the table area, select the row of the file you want to check in.
3. Select "Check In" in the shortcut menu.
4. To use the checkout comments for the check in, leave the "Continue with the existing check out comment" check box selected.
5. To use a different comment for checking in, clear the "Continue with the existing check out comment" check box and enter a comment. The check-in comment is mandatory.
6. To begin or increase the file version with the last defined segment, leave the check mark in the "Automatic versioning" check box.
7. To begin or increase the file version with another segment, clear the check mark in the "Automatic versioning" check box. Select your required segment under "Increase segment version".
8. Click "Check in".

Note

Preventing unauthorized access to a WinCC file

Check the file back in immediately after editing. This will prevent unauthorized persons from making changes to the checked-out file.

Result

Your file is checked in. The status of the file in the Audit Document Control and Project Versioning is "Checked in". You can find the check-in comment in the file history.

5.3.3.3 View File History

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.
- Document control is enabled.

Procedure

1. Select the category of your required file under "Document Control" in the navigation area.
2. Select the row of the file for which you want to display the file history.
3. Select "View History" from the shortcut menu.

Result

The file history shows the user who checked in or restored the file. In addition, the check-in date is displayed with the time and comment.

5.3.3.4 Restoring previous versions of archived project files

Introduction

If you have a versioned a WinCC project file, it is possible to restore a previous version.

NOTICE
Do not delete project files
If you delete the project files in your WinCC project, you cannot restore the project files in Audit Document Control and Project Versioning.
To be able to restore deleted project files, create a local backup of your WinCC project.
Connections and dynamization in the restored project files
When you restore a previous version, connections to existing tags may no longer available, for example.
Reconfigure the connections if necessary.

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.
- Document control is enabled.

Procedure

1. Select "Document Control" in the navigation area.
2. In the table area, select the row of the file whose previous version you want to restore.
3. Select "View History" from the shortcut menu.
4. Select the row of the previous version in the table area.
5. Select "Restore" from the shortcut menu.
6. Enter a mandatory comment.
7. To begin or increase the file version with the last defined segment, leave the "Automatic versioning" check box selected.
8. To begin or increase the file version with another segment, clear the check mark in the "Automatic versioning" check box. Select your required segment under "Increase segment version".
9. Click "Restore".

Result

You have restored the previous version. In the file history, you can see the version from which the file was restored in the comment column.

5.3.3.5 Comparing file versions with one another

Introduction

You can compare the current version of the file with a previous version. Using this function, you can see whether substantive changes have been made (binary comparison).

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.
- Document control is enabled.

Procedure

1. Select "Document Control" in the navigation area.
2. Select the row of the desired file in the table area.
3. Select "View History" from the shortcut menu.
4. In the table area, select the row of the previous version that you want to compare with the current version.
5. Select "Compare" from the shortcut menu.

Result

Audit shows a dialog which indicates whether or not the two files are identical.

5.3.4 Saving and versioning external data

Once document control is enabled for a WinCC project, Audit creates the "Misc Docs (Document Control)" folder in the WinCC project directory. In this folder, you can save files that are not contained in your WinCC project.

By saving them to the "Misc Docs (Document Control)" folder, the files become visible under "Document Control" in the navigation area. Check in the file to save it.

You can version the files exactly as do WinCC project files.

You can find additional information under:

- WinCC project files (Page 54)

5.3.5 WinCC projects

5.3.5.1 Archiving and versioning an open WinCC project

Introduction

The WinCC projects must be located locally on the PC on which Audit Document Control and Project Versioning is started.

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.

Procedure

1. Select "Project > Archive Project" in the menu bar.
2. Make sure that the "Archive Current Project" option is activated.
3. If you want a different archive path, select it using the button.
4. Enter a comment.
5. To begin or increase project file version with the suggested segment, leave the "Automatic versioning" check box selected.

   To begin or increase the project version with another segment, clear the check mark in the "Automatic versioning" check box. Select your required segment under "Increase segment version".
6. Click "Archive."

   The WinCC project is automatically closed and re-opened after archiving.

5.3.5.2 Archiving and versioning a closed WinCC project

Introduction

The WinCC projects must be located locally on the PC on which Audit Document Control and Project Versioning is started.

Requirement

- Audit Document Control and Project Versioning is open and you have authenticated yourself.

- The versioning of the closed WinCC project is configured.

Procedure

1. Select "Project > Archive Project" in the menu bar.

2. Deactivate the "Archive Current Project" option and navigate to the storage path of the required WinCC project.

3. If you want a different archive path, select it using the button.

4. Enter a comment.

5. To begin or increase project file version with the suggested segment, leave the "Automatic versioning" check box selected.

   To begin or increase the project version with another segment, clear the check mark in the "Automatic versioning" check box. Select your required segment under "Increase segment version".

6. Click "Archive."

5.3.5.3 View Project History

There are three views for project versioning:

Views	Description	Navigation
Project History	Project history of an archived WinCC project.	Navigation area "Project Versioning" > in the row of the project in the table area, select > "View Project History" shortcut menu
Current Project History	Project history of the currently open WinCC project.	Menu bar > "Project > Current Project History"
Complete Project History	Project history of all archived WinCC projects.	Menu bar > "Project > Complete Project History"

All views indicate the user who archived the projects. In addition, the archive date is displayed with the time and comment.

5.3.5.4   Restoring previous versions of archived projects

Introduction

If you have versioned a WinCC project, it is possible to restore a previous version.

Requirement

- Your WinCC project is open.
- Audit Document Control and Project Versioning is open and you have authenticated yourself.
- The version number has been configured.

Procedure

1. Select "Project Versioning" in the navigation area.
2. In the table area, select the row of the project whose previous version you want to restore.
3. Select "View Project History" from the shortcut menu.
4. Select the row of the previous version in the table area.
5. Select "Restore" from the shortcut menu.

   A dialog box opens.
6. Select the storage location.
7. Confirm your entries with "OK".

5.4 Viewing audit trails in the Audit Viewer

5.4.1 Viewing audit trails in the Audit Viewer

Introduction

You can view the audit trails from an Audit Trail single project database or from a Audit Trail multi-project database.

- The audit trails of an Audit Trail multi-project database can contain different project IDs, since several WinCC projects use this database.

- The audit trails of an Audit Trail single project database can also contain different project IDs.

The project ID is changed in the following scenarios:

- Copying and pasting the WinCC project to a different storage location.

- Moving the WinCC project to a different storage location.

- Saving the WinCC project with the Project Duplicator (with or without a name change of the WinCC project).

- Restoring an archived WinCC project in Audit Document Control and Project Versioning.

	ID	Project ID	Project Name
1	130	{0327F613-AABE-4D07-89A3-70880C9A8862}	a11
2	129	{0327F613-AABE-4D07-89A3-70880C9A8862}	a11
3	128	{0327F613-AABE-4D07-89A3-70880C9A8862}	a11
4	127	{2ECD92D8-56F8-4FB9-BDB2-37C815CBDE41}	a1
5	126	{2ECD92D8-56F8-4FB9-BDB2-37C815CBDE41}	a1
6	125	{585EFB9D-C5C1-4964-8C87-D62031E4166C}	a1
7	124	{585EFB9D-C5C1-4964-8C87-D62031E4166C}	a1
8	123	{585EFB9D-C5C1-4964-8C87-D62031E4166C}	a1
9	122	{585EFB9D-C5C1-4964-8C87-D62031E4166C}	a1
10	121	{585EFB9D-C5C1-4964-8C87-D62031E4166C}	a1
11	120	{585EFB9D-C5C1-4964-8C87-D62031E4166C}	a1

Requirement

- The Audit Viewer is open.

Procedure

1. In the navigation area, select "Audit DB".

   The table area displays all Audit Trail servers to which an Audit Trail database is connected.

2. Select the required row of the Audit Trail server.

3. Select "Select Server" in the shortcut menu.

   The selected Audit Trail server with the created database is displayed under "Audit DB" in the navigation area.

   The table area shows all stored audit trails.

4. Expand the section of the navigation area below the Audit Trail server with the created database.

   Categories which you can use to browse the Audit Trail database are shown.

5. Select the desired category to view the audit trail.

Result

The audit trails are displayed in the table area.

5.4.2 Audit Trail queries

You can use Audit Trail queries to browse and filter your stored audit trails. You can perform the following queries:

Audit Trail queries	Description
System queries	System queries are pre-defined in the Audit Viewer.
User queries	You yourself define user queries. These queries are not case-sensitive.

"Audit type" field

When you create a user query, enter the area from where the events come in the "Audit type" field.

Use the following abbreviations:

Abbreviations	Meaning
Audit DCV	Audit Document Control and Project Versioning
AU	Audit Editor
CS	Configuration system
OA	User actions
RT	WinCC Runtime

Requirement

- The Audit Viewer is open.
- The database containing the stored audit trails is selected.

Procedure for system queries

1. Select "Audit DB > Audit Trail server with the database > Query > System Query" in the navigation area.
2. Select the required system query.
3. Select "Execute" in the shortcut menu.

Procedure for user queries

1. Select "Audit DB > Audit Trail server with the database > Query > User Query" in the navigation area.

2. In the shortcut menu, select "New Query".

   A new query is created under "User queries". Enter an appropriate name for the query.

3. Define the query in the table area.

4. Select "Run" from the shortcut menu of the query.

Note

Validating a user query

The "Validate" command in the shortcut menu of the query has no function.

Result

You see your filtered audit trails under "<Query> - Result" in the table area.

5.4.3 Displaying exported audit trails

Introduction

You can view exported audit trails in the Audit Viewer.

The Audit Viewer can read the following file formats:

File format	Product	Version
XML	Audit	V7.2
		V7.3
TXT	WinCC flexible	2008 or later
CSV	WinCC flexible	2008 or later
RDB	TIA	V12 or later

Note

Audit trail manipulations

If there is suspicion that an export XML file has been manipulated, the Audit Viewer displays all audit trails of the XML file with a red background.

Requirement

- The Audit Viewer is open.

Procedure

1. In the navigation area, select "Audit File".
2. Select "Show Audit File" from the shortcut menu.

   A query dialog opens.
3. Select your file.
4. Click "Open".

Result

The selected file appears under "Audit File" in the navigation area. The content of the file is displayed in the table area.

5.5 Displaying audit trails in the Audit Viewer Control

5.5.1 Adding Audit Viewer Control in the Graphics Designer

Introduction

To be able to use the Audit Viewer Control in a process picture, you must first add it to the selection of controls in the Graphics Designer.

Requirement

- An Audit Trail database is connected.
- The process picture is open in the WinCC Graphics Designer.

Procedure

1. Open the "Controls" tab and select the entry "Add/Remove" in the shortcut menu of the "ActiveX Controls" folder.

   The "Select OCX Controls" dialog is opened.

2. Activate the "WinCC Audit Viewer Control" control in the "Available OCX Controls" area and confirm with "OK".

Result

The "WinCC AuditViewer Control" is displayed in the "Controls" tab of the "ActiveX Controls" folder.

5.5.2 Configuring the Audit Viewer Control

Introduction

To be able to use the Audit Viewer Control in a process picture, you need to define the following:

Database names

Select a database name. You have two database names to choose from:

Database name	Description
CC_AUDIT_DATABASE	Name of the Audit Trail single project database.
AUDIT_DATABASE_MP	Name of the Audit Trail multi-project database.

Permissions

You can specify the permissions for the Runtime operation in the Audit Viewer Control.

Under "Properties > AuthorizationLevel", you can specify the user queries allowed for each user.

Description	Permissions in the Audit Viewer Control	AuthorizationLevel
Each user can use all functions of user queries.	• Run user queries. • Edit user queries. • Delete user queries.	Value = 0, no access protection
The user logged on to WinCC Runtime has the permissions assigned in the User Administrator. The permission in the User Administrator corresponds to the value of the "AuthorizationLevel" property.	• Run user queries. • Edit user queries. • Delete user queries.	Value > 0
The users logged on to WinCC Runtime do not have the assigned permissions in the User Administrator that correspond to the value of the "AuthorizationLevel" property .	• Run user queries.	Value > 0

Procedure

1. Insert the "Audit Viewer Control" into a process picture.
2. Double-click in the "Audit Viewer Control".

   The "Properties of WinCC AuditViewer Control" dialog opens.
3. Enter the Audit Trail server name, for example, "VM-WIN7X86".
4. Select the database name.
5. Enter the maximum number of displayed audit trails.
6. If needed, define the permission value under "AuthorizationLevel" in the properties.
7. Confirm your entries with "OK".

5.5.3 Displaying audit trails in the Audit Viewer Control

Introduction

You can browse the stored audit trails of an Audit Trail database in WinCC Runtime.

Audit Trail queries

You can use Audit Trail queries to browse and filter your stored audit trails.

You can find additional information under:

● Audit Trail queries (Page 64)

Requirement

● The Audit Viewer Control is configured.
● WinCC Runtime is active.

Procedure

1. In the navigation area under "Audit DB", click the Audit Trail server with the created database .

   The table area shows all stored audit trails.
2. Expand the section of the navigation area below the Audit Trail server with the created database.

   Categories which you can use to browse the Audit Trail database are shown.
3. Select the desired category to view the audit trails or run a query.

Result

The audit trails are displayed in the table area.

5.6 Exporting audit trails to a CSV file

Introduction

You can export filtered audit trails to a CSV file.

Requirement

- The Audit Viewer is open.

Procedure

1. Perform a query or select a category.
2. In the menu bar, select "File > Export to CSV".

   A query window opens.
3. Select the storage location.
4. Click "Export".

5.7 Data conversion

Introduction

You have the option of converting data in order to use your stored audit trails in another system. The Audit Editor allows you to export entries from a limited time range or a complete Audit Trail database.

To export a limited time range, specify a start date and an end date with the time information.

If you want to export the complete Audit Trail database, you do not need to specify a start date and an end date with time information.

Requirement

- Your WinCC project is open.
- The Audit Editor is open and you have authenticated yourself.

Procedure

1. Open the shortcut menu under "Audit Trail" in the navigation area.
2. Click "Export Database".

   A query window opens.
3. Select a storage location under "Select file".
4. To apply a date and time filter, select the "Use date filter" option under "Date filter". Enter the required information.
5. To export the complete Audit Trail database, select the "Do not use date filter" option under "Date filter".
6. Confirm your entries with "OK".

Result

The Audit Trail database is exported as an XML file.

Migration 6

6.1 Migrating audit data

Introduction

If you are already using Audit V7.2, you can migrate your audit configurations and your stored audit trails to Audit V7.3.

Note

Migration of Audit V7.2 databases

You can migrate the following from your Audit V7.2 single-project database to Audit V7.3:

- Audit configuration
- Audit trails

You can migrate the following from your Audit V7.2 multi-project database to Audit V7.3:

- Audit configuration

One-time migration

Migration can only be started once. If you do not perform the migration, the option is not offered again.

If you reject a migration step, you will not have the opportunity to repeat this step.

Migrating audit configurations and audit trails

1. Open your WinCC project.
2. Open the Audit Editor and authenticate yourself.

   The migration prompt appears asking if you want to migrate the Audit configuration of the previous version.
3. Confirm with "Yes".
4. Connect to the Audit Trail database below "Select Server".

   The migration prompt appears asking if you want to migrate the Audit database of the previous version.
5. Confirm with "Yes".

Result

Your configuration settings are migrated in the Audit Editor. The stored audit trails of the previous version are migrated to the current Audit Trail database. Some of the values are shown in the columns whose names start with "Legacy".

6.2 Viewing Audit V7.2 multi-project database

Introduction

You have two options for viewing the audit trail of an Audit V7.2 multi-project database.

WinCC and Audit V7.2 are still installed on your PC

1. Export the Audit Trails from the multi project database in Audit Editor V7.2.

2. Upgrade to WinCC and Audit V7.3.

3. View the exported Audit Trails in Audit Viewer V7.3.

WinCC and Audit V7.3 are already installed on your PC

If you have already installed WinCC and Audit V7.3 on your PC, follow these steps:

1. Do not uninstall Audit Viewer V7.2 and Audit Viewer Control V7.2.

2. View the multi-project database in Audit Viewer V7.2 or Audit Viewer Control V7.2.

6.3 Migrating Document Control and Project Versioning

The archive of Document Control and Project Versioning from Audit V7.2 cannot be migrated to Audit V7.3.

You must rebuild the document control again after the Audit V7.3 installation:

- Enable document control in the Audit Document Control and Project Versioning.

  This checks in and saves all the WinCC project files of your opened WinCC project.

- Archive your WinCC project in Audit Document Control and Project Versioning.

You can find additional information under:

- Saving and versioning WinCC project data. (Page 48)

6.4 Migrating user administration

Internal user administration can no longer be performed in the Audit Editor in Audit V7.3.

If you have enabled "SIMATIC Logon" in Audit V7.2, you can also use the configuration in the Windows User Management in Audit 7.3.

The "Audit-Admin" and "Audit-DocControl" groups are no longer relevant in Audit V7.3, only the "SIMATIC HMI AUDIT" user group.

Therefore, move all members of the "Audit-Admin" and "Audit-DocControl" groups in the Windows User and Group Management to the "SIMATIC HMI AUDIT" user group.

You can find additional information in the installation notes under "User Authentication".

6.5   InsertAuditEntry

Introduction

If you use the "InsertAuditEntry" function of Audit V7.2 in a WinCC project, you can continue to use the function with Audit V7.3.

It is not necessary to change your scripts.

Some of the values from the "InsertAuditEntry" will appear in the Audit Trail database in columns whose names begin with "Legacy".

InsertAuditEntryNew

For all new WinCC projects, use the "InserAuditEntryNew" function.

You can find additional information under:

- InsertAuditEntryNew (Page 44)

InsertAuditEntry in the Script Editor or in the Graphics Designer

C Editor/Graphics Designer

You can find the InsertAuditEntry function in the navigation area under "Project Functions".

Note

Regenerating the header

If the "InsertAuditEntry" function is not visible, you need to re-generate the header in the C Editor.

VBS Editor/Graphics Designer

You can find the InsertAuditEntry function in the navigation area under "Project Modules".