

# WinCC OA Object-oriented programming and panels

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### Course code

ETM-WinCCOAOOP

### Description

This two-day instructor-led course provides trainees with the knowledge and skills necessary to successfully use the WinCC OA integrated script language CTRL++ to implement object-oriented concepts and to successfully use the concept of object-oriented panel references. It is aimed at staff implementing WinCC OA Control code, panel-dependent as well as panel-independent.

### Prerequisites

Participating trainees should be PC literate (MS Windows, keyboard and mouse skills) and have basic skills in coding/programming. A basic knowledge of object-oriented programming is of advantage. Trainees have to bring a suitable laptop. A training copy of the WinCC OA software will be installed on this notebook as part of the training. A minimum specification for this PC is detailed in the note below.

### Training objectives

On completion of this course the trainee will be able to produce simple codings and modify existing source codes.

### Content

- Introduction to programming in WinCC OA
- Basic concepts of object-oriented programming
- Object-oriented concepts in WinCC OA and the scripting language CTRL++
- The new data types “shared\_ptr” and “function\_ptr”
- Object-oriented panel references in WinCC OA
  - Implementation and triggering of events
  - Implementation of UI properties
  - Implementation of public functions
  - Handling of UI events
  - Handling of global UI events
- Handling of system events



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**Please note:** WinCC OA only supports 64bit-operating systems! Hardware and software, except for WinCC OA, are not provided and must be brought by the participant. The minimum hardware and software requirements are as follows:

- Processor Intel Core i3 / i5 / i7 with 2.2 GHz or similar
- RAM 4 GB
- HDD 5GB free disk space
- Graphic 1280 x 1024
- Input Keyboard, mouse and USB-port (required)
- Operating system Windows 10 CB Version 20H2, LTSC Version 2019, Windows Server 2019, RedHat Enterprise Linux 8 64bit, Oracle® Linux 8.3, SIMATIC Industrial OS 2.2, Docker-Version 20.10.3 with Debian 10 Buster
- Optional VMware Cluster (HA) ESXi 6.7 Update 3\*  
(supported by all operating systems which are mentioned above)
- Optional software Microsoft Excel 2016, Excel 365 1912  
(Only 32bit Excel versions can be used for the WinCC OA Excel-report.)

## Duration

2 days non-residential

\*...The use of a virtualization is optional and not required for the installation of WinCC OA!