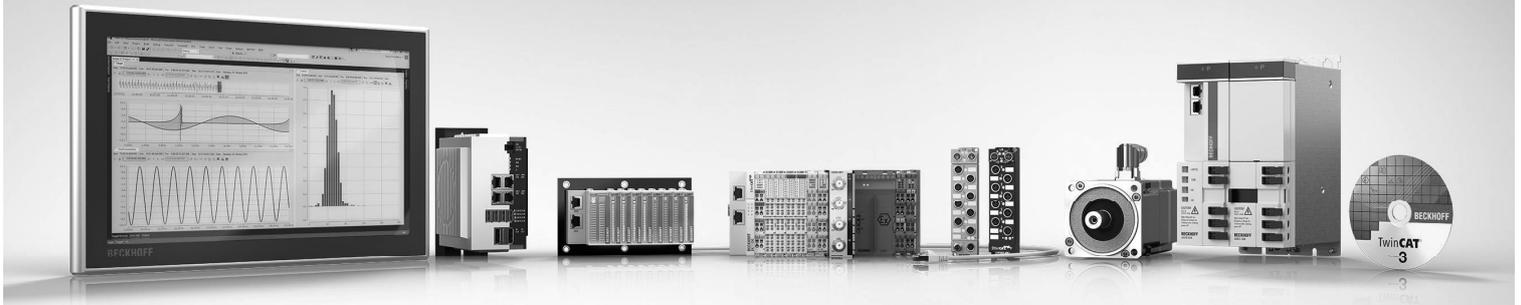


TwinCAT 3 PLC Training



Module 2 – Installation

Introduction and Quick Start

- **Modules 1 – 4**

Programming Basics

- **Modules 5 – 13**

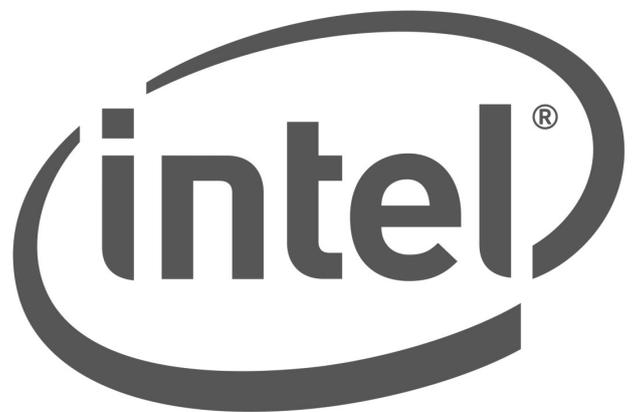
Diagnostics and Hardware

- **Modules 14 – 16**

1. General PLC Architecture
- 2. TwinCAT 3.1 Installation**
3. First Project
4. Setting the Cycle Time

2.1 System Requirements

- Only Intel processors are supported.
- You will need Administrator privileges to install TwinCAT 3.1.
- During installation, you will need to restart your computer.
- Access to network settings (IP address, etc.) is preferred after installation is complete.



2.2 Download

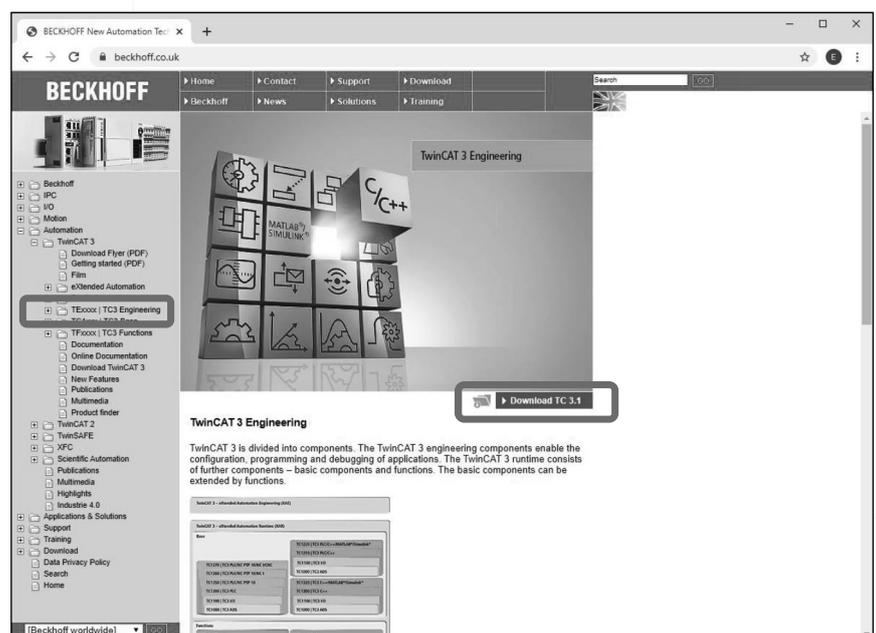
BECKHOFF

- All tools required for PLC development are free of charge and don't require a license.
- Latest version is available at www.beckhoff.co.uk

2.2 Download

BECKHOFF

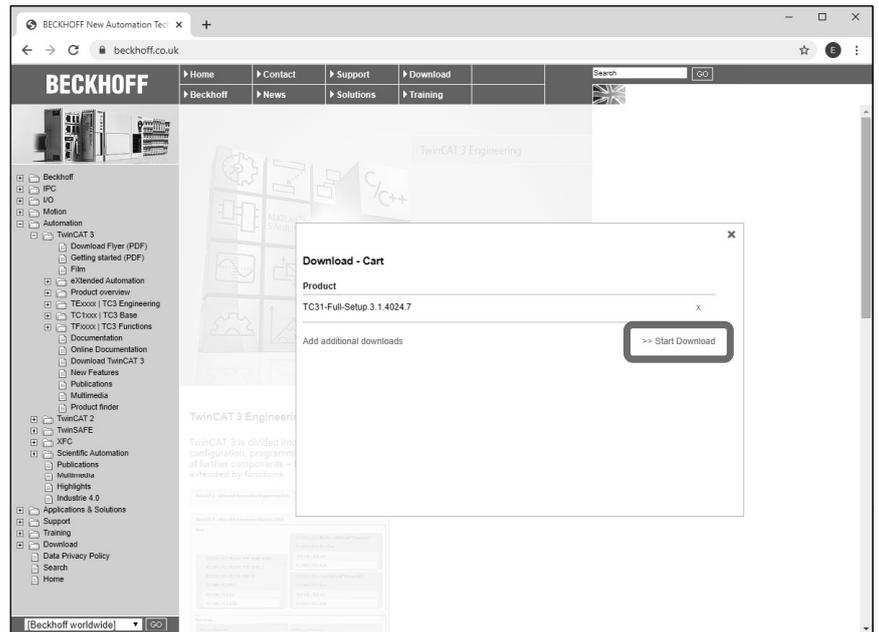
- Open www.beckhoff.co.uk in a web browser.
- In the folder structure on the left-hand side, navigate to Automation
 - TwinCAT 3
 - TExxxx | TC3 Engineering
- Click on Download TC 3.1.



2.2 Download

BECKHOFF

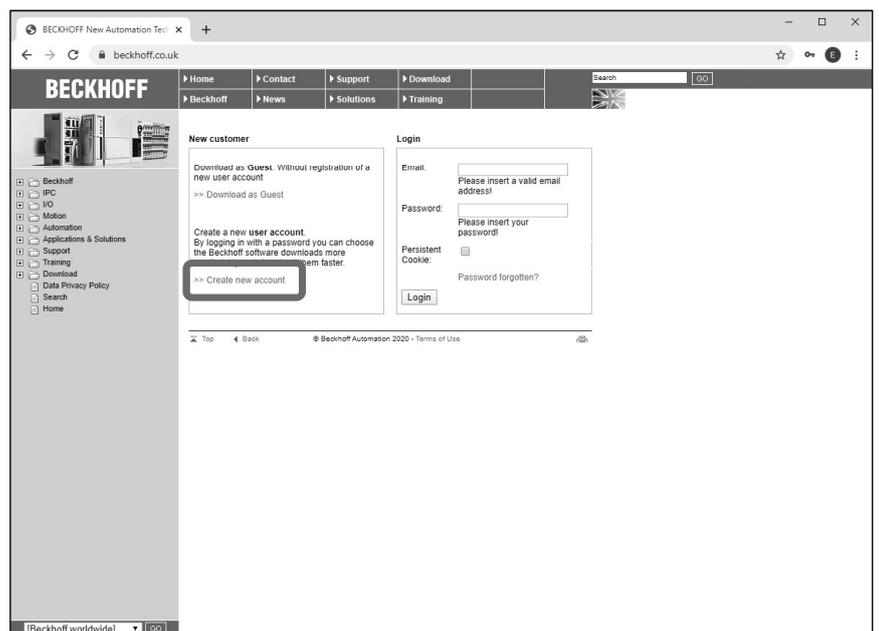
- This will open the Download Cart window.
- Click on
 >> Start Download link



2.2 Download

BECKHOFF

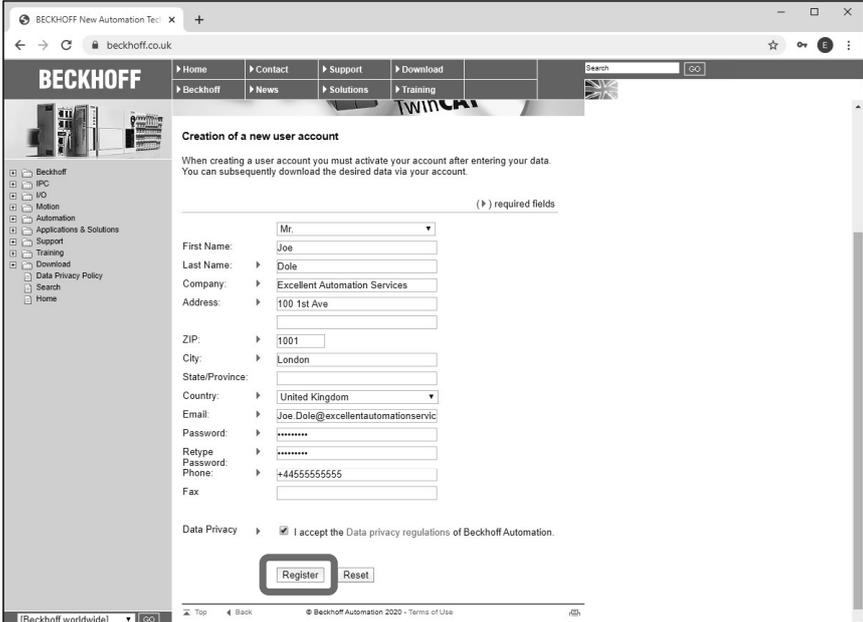
- If you have already created a website account, please log in.
- Otherwise, you can create one by clicking on
 >> Create new account
- Creating an account is free and only takes a few minutes.



2.2 Download

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- Please fill in your contact details.
- The fields with the  next to them are mandatory .
- Please read the Data privacy regulations, and tick the box if you agree.
- Click on the Register button at the bottom.

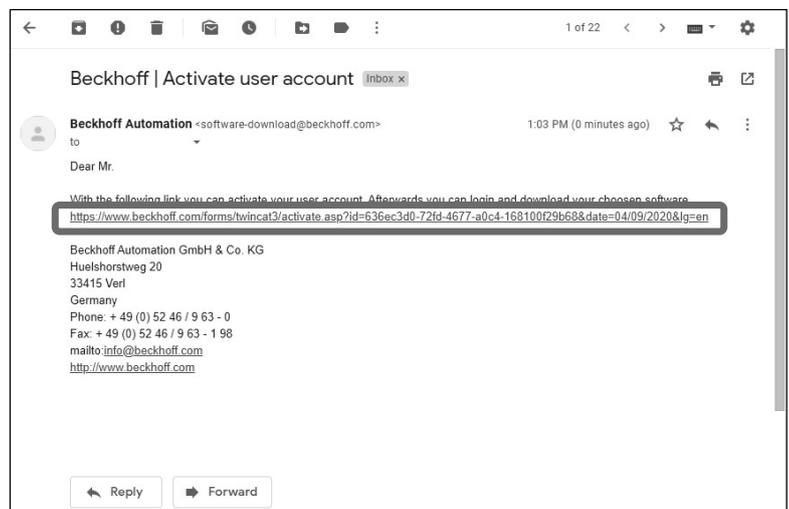


The screenshot shows a web browser window at beckhoff.co.uk. The page title is "Creation of a new user account". Below the title, there is a note: "When creating a user account you must activate your account after entering your data. You can subsequently download the desired data via your account." A list of fields follows, with arrows indicating mandatory fields: First Name (filled with "Joe"), Last Name (filled with "Dole"), Company (filled with "Excellent Automation Services"), Address (filled with "100 1st Ave"), ZIP (filled with "1001"), City (filled with "London"), State/Province, Country (filled with "United Kingdom"), Email (filled with "Joe Dole@excellentautomationservice"), Password (filled with "*****"), Retype Password (filled with "*****"), Phone (filled with "+44555555555"), and Fax. A "Data Privacy" section has a checked box for "I accept the Data privacy regulations of Beckhoff Automation." At the bottom, there are "Register" and "Reset" buttons. The "Register" button is highlighted with a red box.

2.2 Download

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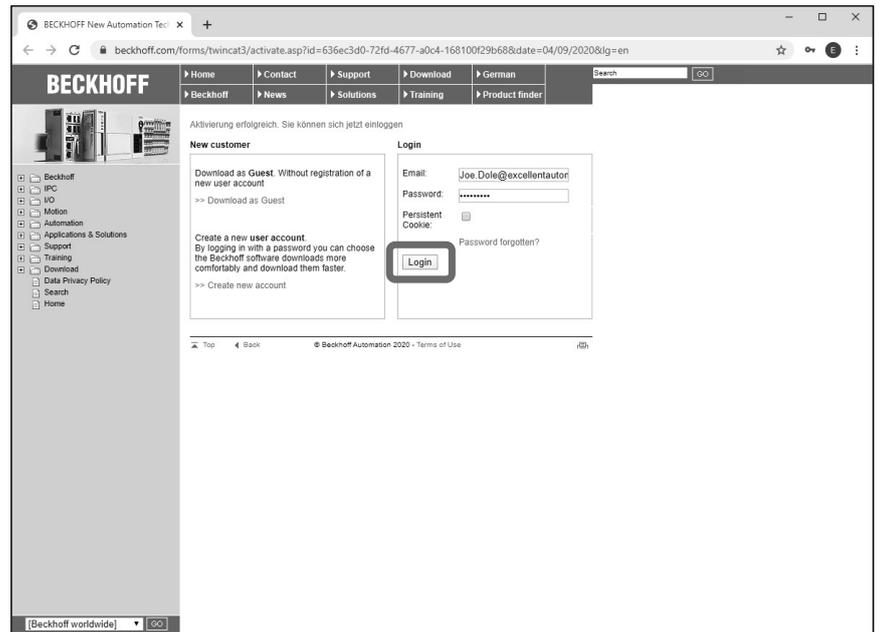
- Check the inbox of the supplied email address for a mail from Beckhoff Automation.
- Click on the link in the mail to confirm your registration.



2.2 Download

BECKHOFF

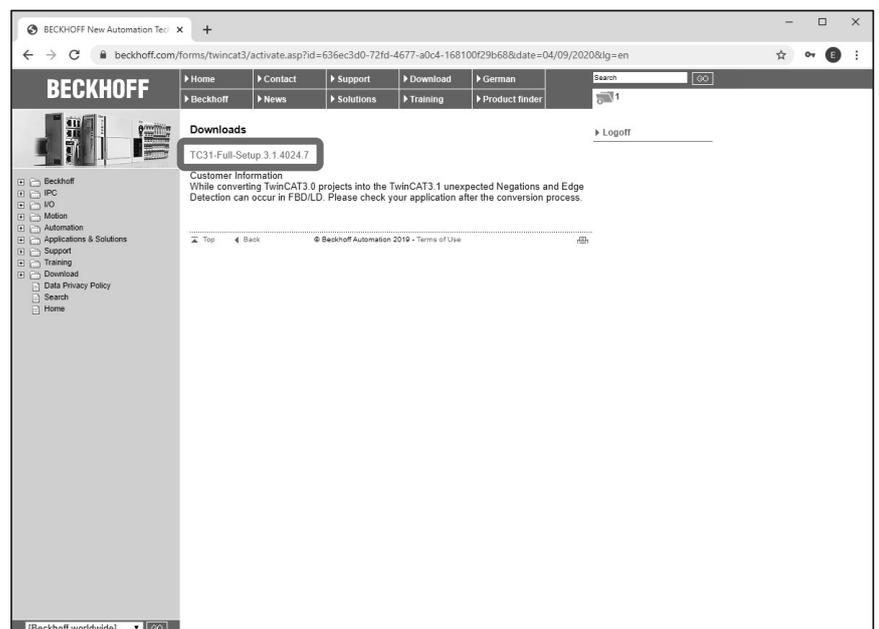
- Fill in the email address and password provided during account creation.
- Click on the Login button.



2.2 Download

BECKHOFF

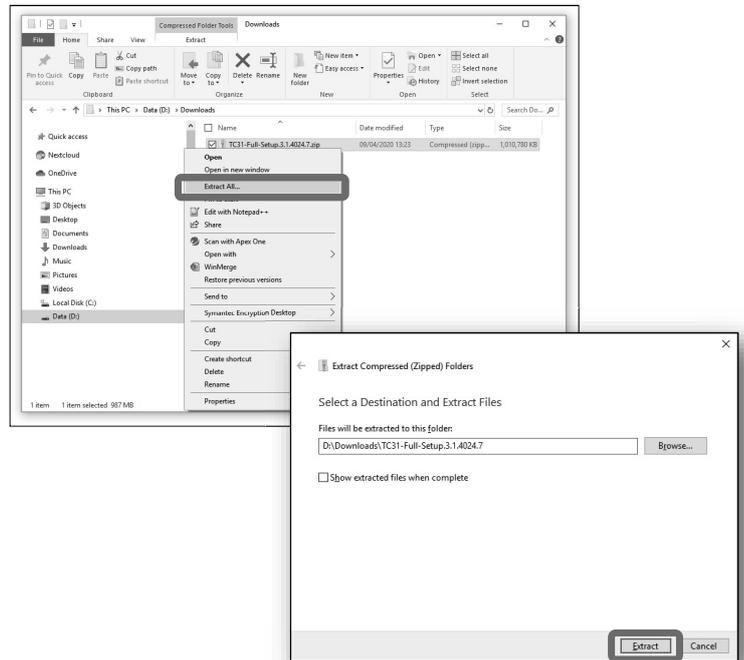
- Once logged in, your download cart is shown.
- Click on the link to download TwinCAT 3.1.



2.2 Download

BECKHOFF

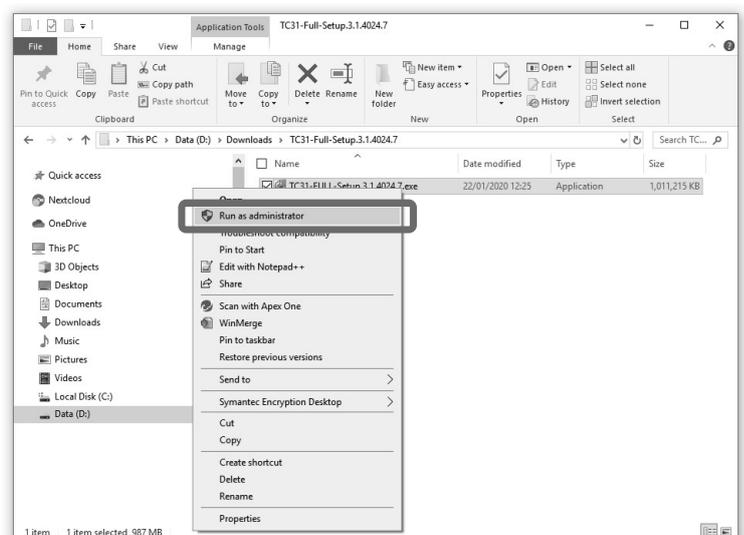
- Once downloaded, right click on the zip file and select **Extract All...**
- Then click the **Extract** button on the window that pops up.



2.3 Run Installer as Administrator

BECKHOFF

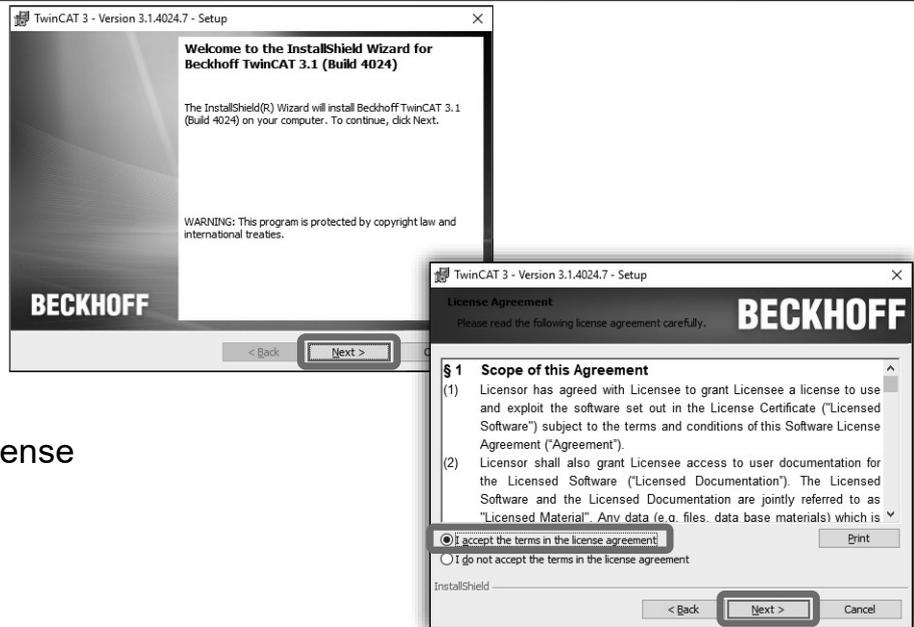
- Once extracted, open up the folder containing the TC3.1 installer.
- Right click on the installer and select **Run as Administrator...**
- When prompted to allow application to make changes to your system, agree.



2.3 Run Installer as Administrator

BECKHOFF

- Click Next.

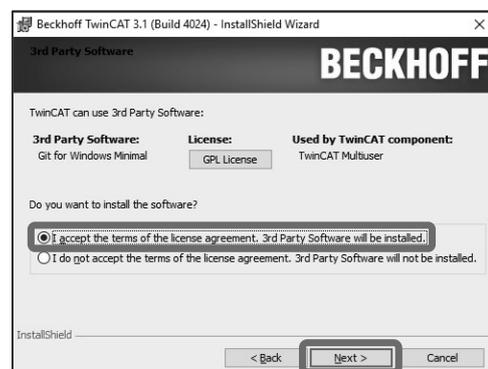


- Then read and accept the license agreement.
- Click Next again.

2.3 Run Installer as Administrator

BECKHOFF

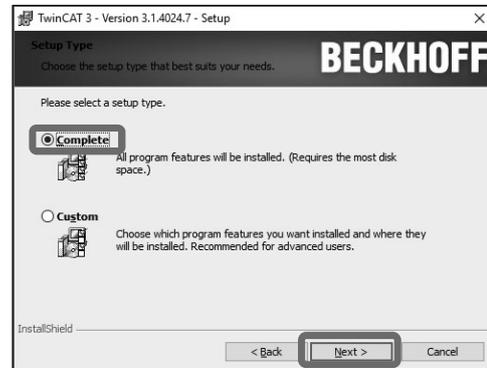
- In order to support multi-user login to the PLC, the installer will need to include Git, which is covered by the GPL License.
- Although a very useful feature, it is not critical to the operation of TwinCAT and can be excluded from the installation if required.



2.3 Run Installer as Administrator

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- A complete installation is recommended.



2.3 Run Installer as Administrator

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- If an existing installation of Visual Studio 2013/15/17 Shell or Full is detected, TwinCAT can be integrated into it. This is optional.
- In addition, TwinCAT XAE Shell is installed, and will be used for this course.
- Click on Install to start the installation of TwinCAT 3.1, which may take up to 30 minutes.

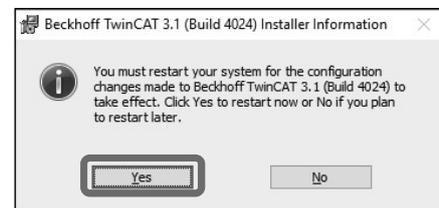
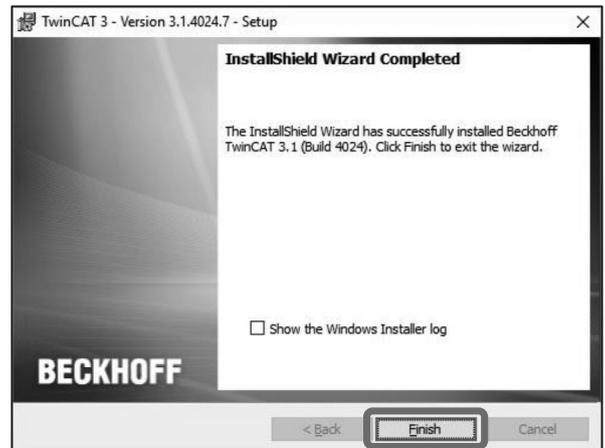


2.3 Run Installer as Administrator

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Once complete, your computer will need to reboot in order to complete the installation.

Your computer must be restarted before continuing with the next step.



2.4 Finish Installation

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- After rebooting, The Cog should be visible in the System tray.
- This indicates that TwinCAT was installed successfully, and that the background service is running.



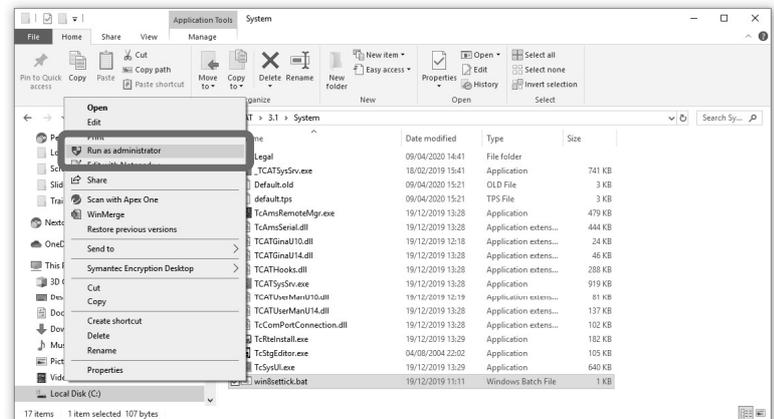
2.4 Finish Installation

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One last task remains on Windows 8 and Windows 10 computers to allow simulation on your computer: please run

`C:\TwinCAT\3.1\System\win8settick.bat`

as Administrator, and allow it make changes to your system, then reboot again.



Module 2 Recap

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- TwinCAT 3.1 is now installed on your computer, allowing you to:
 - Write PLC applications,
 - Simulate PLC programs on your computer without any hardware,
 - Connect to an IPC and remotely debug your PLC program whilst running on real hardware.
- No licenses are required to run, deploy and debug TwinCAT 3.1 PLC applications.