

Getting Started With the Screen Steps Documentation

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ScreenStepsLive is a new tool that FRC/WPI are using to create and present documentation. This document is a brief introduction to the ScreenStepsLive site and the documentation contained here.

What's Here?

The documentation on the ScreenStepsLive site encompasses a number of potentially familiar documents from previous seasons such as the Getting Started with the 201X Control System, Getting Started with C++, Getting Started with Java, WPILib Cookbook, Vision Whitepaper and more. It also includes quite a bit of brand new documentation such as the Control System Software and Hardware Overviews, documentation on new features or tools such as Robot Builder and Live Window/Test Mode, and new documentation on existing tools such as Getting Started With the SmartDashboard.

Navigating the Site

Robot programming with WPILib » Getting started with C++ » Configuring Wind River Workbench

PREV INSTALLING THE C++ DEVELOPMENT TOOLS

NEXT CREATING A ROBOT PROJECT

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Last Updated
Oct 31, 2012

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Other Resources

BETA TESTING FOR 2013

- Beta testing WPILib for 2013

WPILIB PROGRAMMING DOCUMENTATION

- Getting started with C++
- Getting started with Java
- WPILib programming
- Command based programming

SOFTWARE TOOLS

- RobotBuilder
- Extending RobotBuilder (under development)
- SmartDashboard

Configuring Wind River Workbench

Workbench must be configured to download and debug programs on your cRIO. Those configuration settings are described in this lesson.

Creating a Target Server Connection

Workbench connects to your cRIO controller and can download and remotely debug programs running on it. In order to make that connection, Workbench needs to add your cRIO to its list of Remote Systems. Each entry in the list tells Workbench the network address of your cRIO and the location of a kernel file that is required for remote access.

To create the entry for your system right-click in the empty area in the "Remote Systems" window and select "New Connection".

Note: If the Remote Systems tab is not visible, you can show it by going to the "Window" menu and selecting "Show View" then "Remote Systems"

Specifying the connection type

New Connection

Select Remote System Type

System type:

type filter text

- General
 - FTP Only
 - Linux
 - Local
 - SSH Only
 - Use
 - Windows

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The documentation is organized into a hierarchy with Sections at the very top, followed by Manuals, Chapters, then Lessons. At any time while you are browsing through the documentation, you can use the navigation at the top of the screen to go back to the Manual or to the home screen. You can also use the navigation on the left side of the screen when viewing a Manual or Chapter to jump to a different Manual. Each article also has a Prev and Next link at the top and bottom of the article to take you to the previous article or next article in the Manual.

Using the Search

The screenshot shows a search results page. On the left is a sidebar titled "Filter Search Results" with instructions to "Check the options below to only search specific manuals". It lists several categories with checkboxes: "BETA TESTING FOR 2013" (Beta testing WPILib for 2013), "WPILIB PROGRAMMING DOCUMENTATION" (Getting started with C++, Getting started with Java, WPILib programming, Command based programming), "SOFTWARE TOOLS" (RobotBuilder, Extending RobotBuilder, SmartDashboard, Debugging and testing robot programs), and "2013 CONTROL SYSTEM" (Getting Started With the 2013 Control System). Two red arrows point from the "Beta testing WPILib for 2013" checkbox to the search results area. The main content area is titled "Search Results" and features a search bar containing "RobotBuilder". Below the search bar are two radio buttons: "Match any search term" (selected) and "Match all search terms". Below these is the text "Total articles found: 21" and a "Reset Search" link. The search results list includes "Starting RobotBuilder" and "Overview of RobotBuilder".

A search bar is located at the top of each page which you can use to search the site. After entering a search query you will be brought to the search results page. From this page you can refine your query by selecting whether to "match any" or "match all" terms in the search. You can also narrow your search to specific manuals by checking them in the left pane.

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Downloading PDFs

Topics

The basic steps to create a robot program

12

Writing C++ code for your robot

4

Writing Java code for your robot

5

Advanced techniques

4

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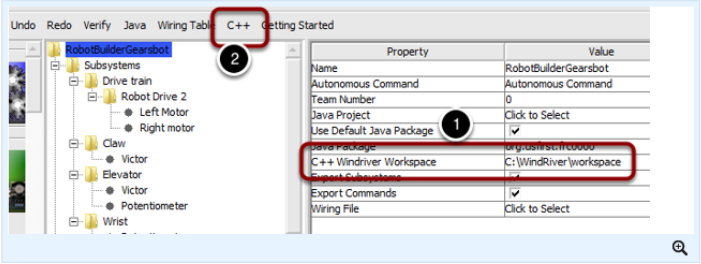
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PREV: [STARTING ROBOTBUILDER](#)

Generating C++ code for a project

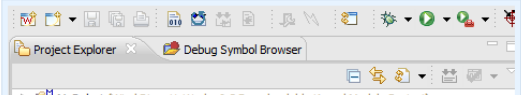
Adding code to create an actual working subsystem is very straightforward. For simple subsystems that don't use feedback it turns out to be extremely simple to open or close a claw on the robot arm.

Generate the code for the project



Verify that the C++ WindRiver workspace location is set properly (1) and generate code for the C++ robot project (2).

Import the project into WindRiver Workbench



For offline viewing, every Manual in the documentation can be downloaded as a PDF. From the manual page or from any of the Lessons within the manual you can download the manual PDF by clicking the link on the left side of the window. Additionally, some individual Lesson PDFs can be downloaded from the lesson pages.