myRIO and roboRIO Help

Getting Started

Two project examples, one for the myRIO and one for the roboRIO, are provided. If you are running the Master (ROS_Master_Main.vi) on the RIO, you don't need to deploy the source distribution. If the RIO is communicating with a different master, you will need to deploy the source distribution before running any publishers or subscribers.

Running a Master on the RIO

By deploying the ROS_Master_Main.vi to the RIO, you can use the RIO as a Master. The RIO's IP address will be listed in the VI so you can connect to it from a computer or another RIO.

Running the Master works best if the RIO is connected over wifi. If you are connecting via USB cable, you will only be able to communicate between the RIO and the computer the RIO is connected to. You will need to change your IP address in ROSTerminal.vi to 172.22.11.1.

Using the RIO to Communicate with a Different Master

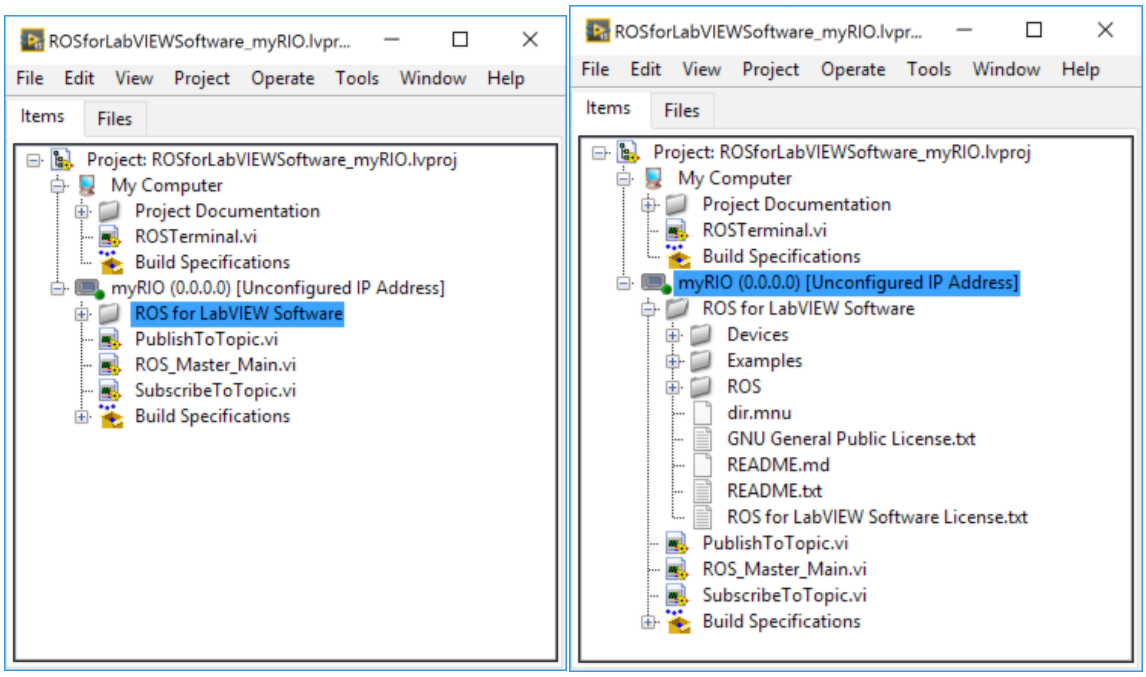
If you are using the RIO to communicate with a different Master, you will need to deploy the source distribution (located under build specifications) included in the template. This ensures that all the files you need are on the RIO and in the correct place. Since many of our VIs are referenced relative to each other and called dynamically, your code will not work if you do not deploy the source distribution.

Creating Your Own Source Distribution

If you find you need to create your own source distribution, please follow the steps below.

Step 1

Add the ROS for LabVIEW Software to the project by navigating to the user.lib folder and dragging it into the myRIO section. On a Mac, you can reach it by going to Applications > National Instruments > LabVIEW 201X > user.lib. On a PC, you can reach it by going to Program Files (x86) > National Instruments > LabVIEW 201X > user.lib.



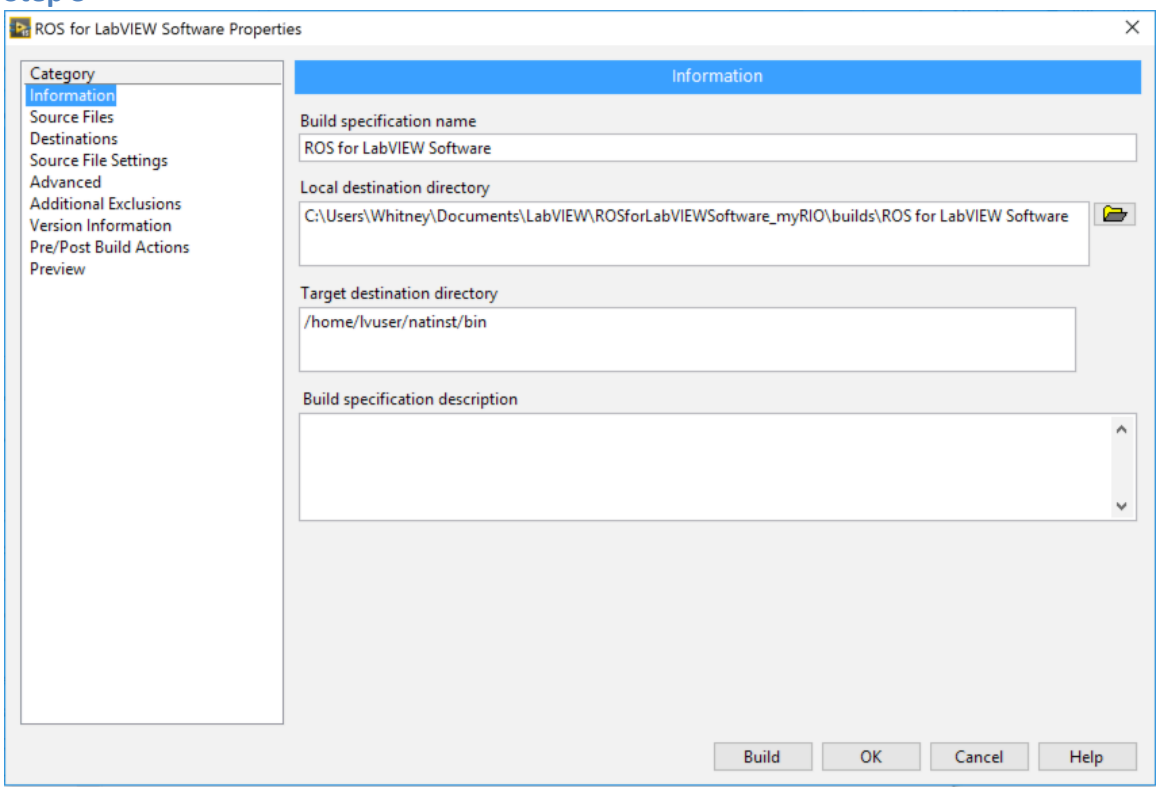
Note

Some files in the ROS for LabVIEW Software are incompatible with ROS for LabVIEW Software. You will need to remove several folders and files from the project by highlighting them, right clicking, and selecting Remove from Project. These files are the Gazebo and the PlayArea folders and the ROSTerminal.vi, which is located under ROS for LabVIEW Software > ROS > Code > ROS_Tools.

Step 2

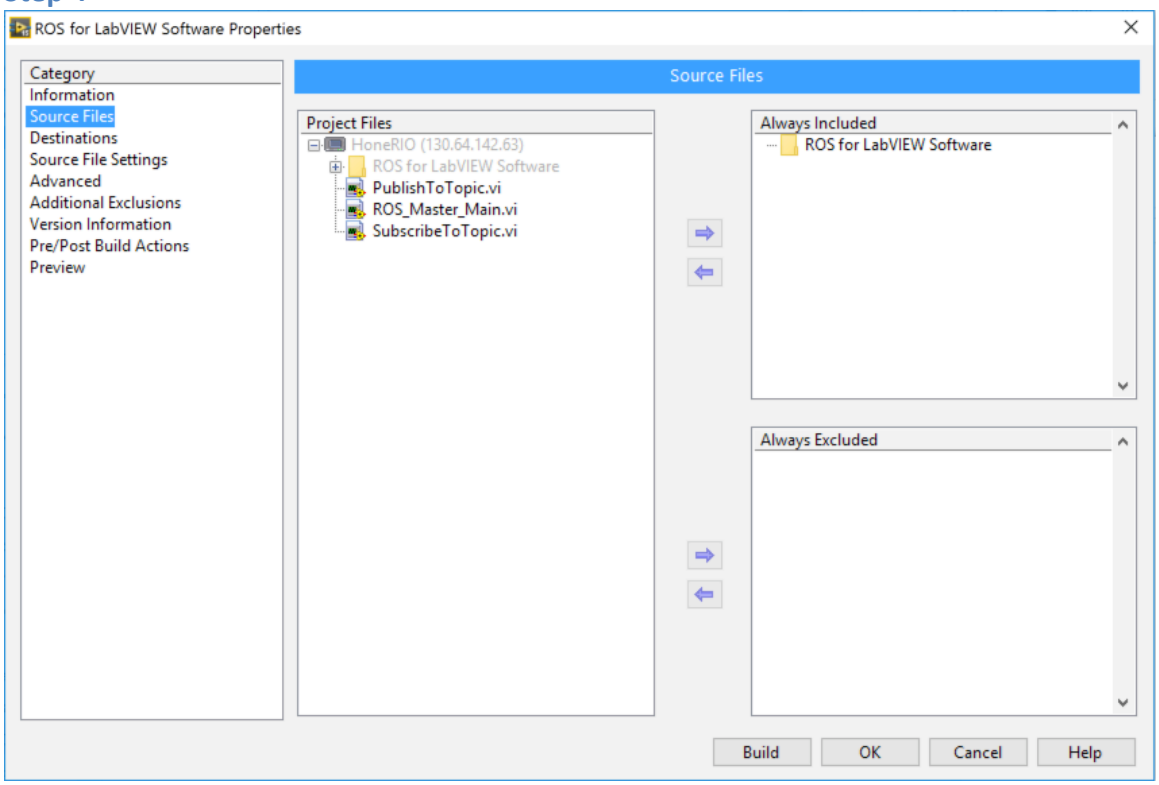
Right click on Build Specifications, and navigate to New > Source Distribution.

Step 3



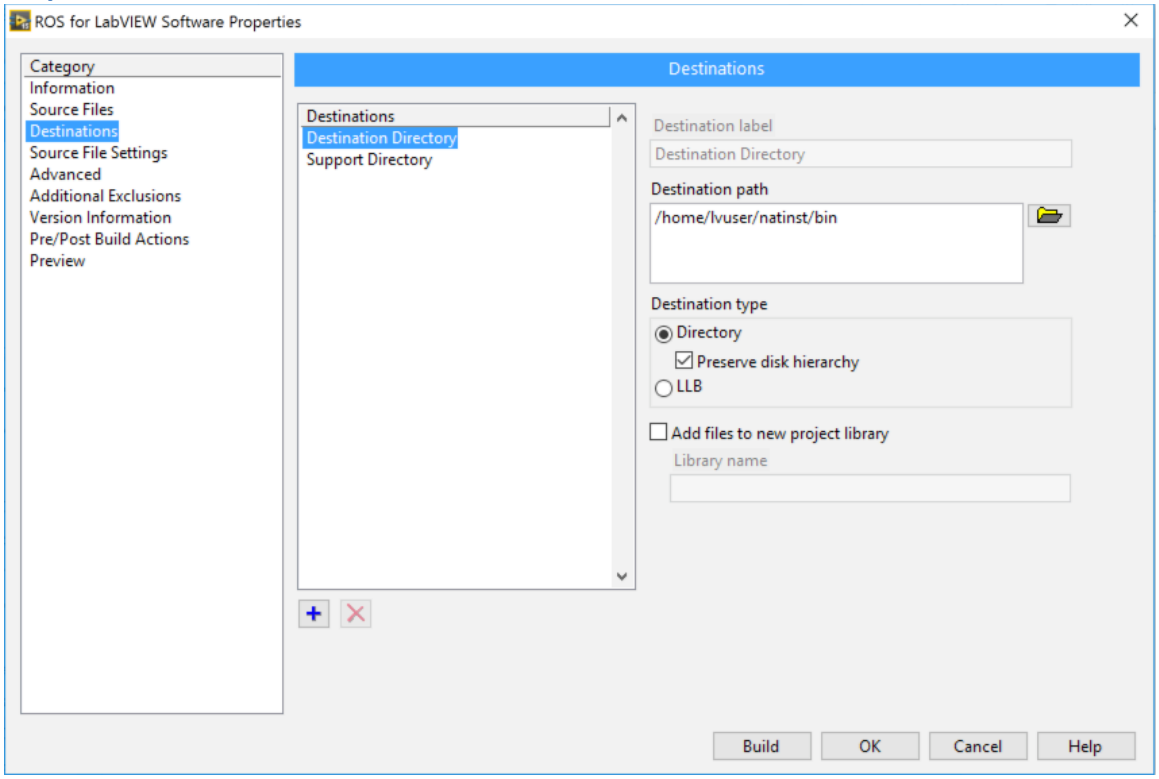
Name your source distribution and select your local destination directory. The target directory should be /home/lvuser/natinst/bin.

Step 4



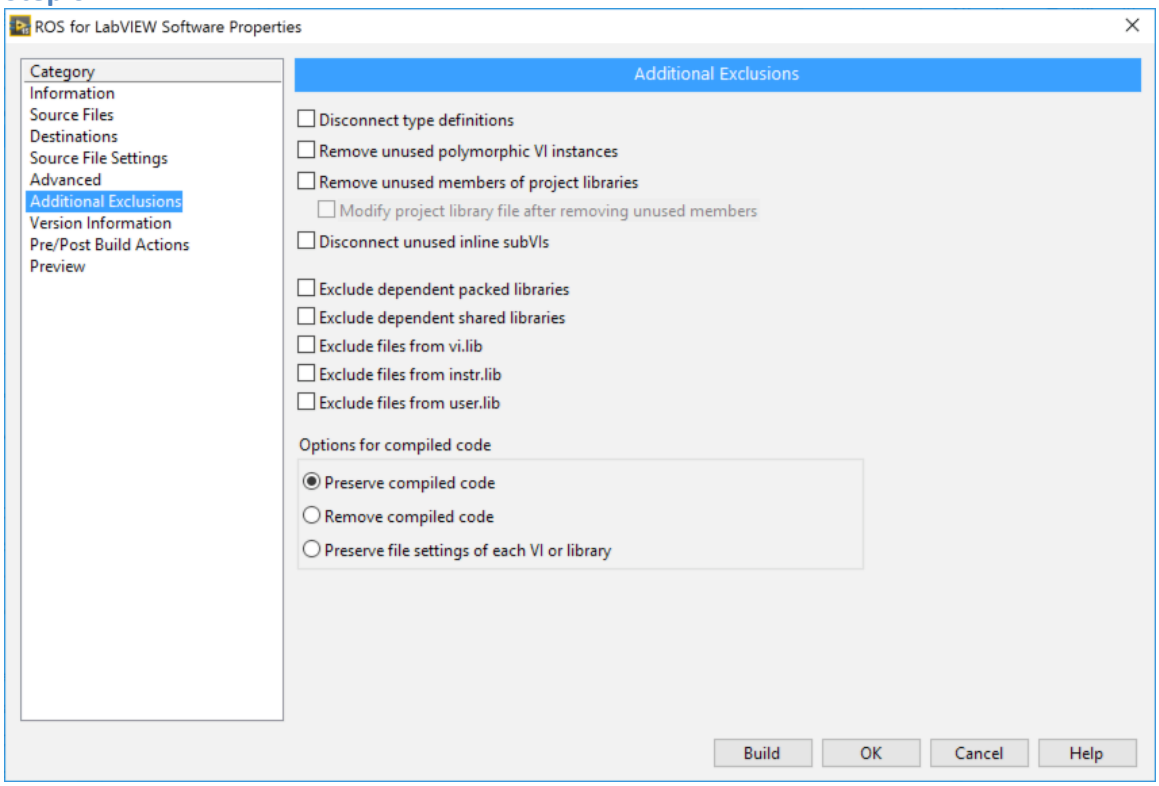
Under Source Files, add ROS for LabVIEW Software to Always Included.

Step 5



Under Destinations, make sure the destination type is a Directory and Preserve disk hierarchy is selected.

Step 6



Under Additional Exclusions, uncheck exclude files from vi.lib, instr.lib, and user.lib.

Step 7

Click build.

Step 8

Right click the new distribution you have created, and click deploy.