

# **Lynbrook Robotics**

## ***FIRST* Team 846**

Software Workshop #1  
December 7, 2012

# Today's Goals

- Install the necessary development tools
- Set-up those tools
- If time allows, discuss how software on the robot works

# Software Installation

## Wind River!

**What:** Wind River is our development environment. We use it to write, compile and deploy code.

**Where:** Copy the installation files from the storage media.

**How:** Run the installer. When asked for a license, browse for and select "FRC\_2012\_WB30\_WB33\_install.txt" (same directory)

# WPILib

**What:** WPILib is the API that we use to control the robot.

**Where:** [http://firstforge.wpi.edu/sf/frs/do/listReleases/projects.wpilib/frs.2012\\_update\\_for\\_c](http://firstforge.wpi.edu/sf/frs/do/listReleases/projects.wpilib/frs.2012_update_for_c)

# Software Installation

## Subclipse

**What:** Integrated SVN (subversion) version control plugin for Windriver. Subclipse allows for a seamless SVN experience built right into the IDE.

**Where:** [http://subclipse.tigris.org/update\\_1.8.x](http://subclipse.tigris.org/update_1.8.x)

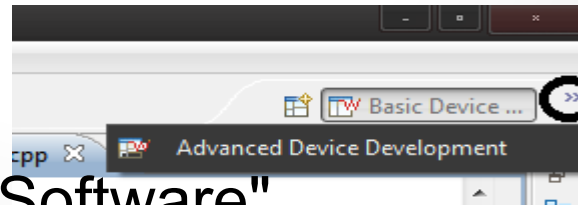
**How:** In Wind River, press the double arrow button at the top right:

Select "Advanced Device"

Click "Help -> Install New Software"

Add the site, uncheck "Subclipse Integration for Mylyn 3.x"

Install the software



# Software Installation

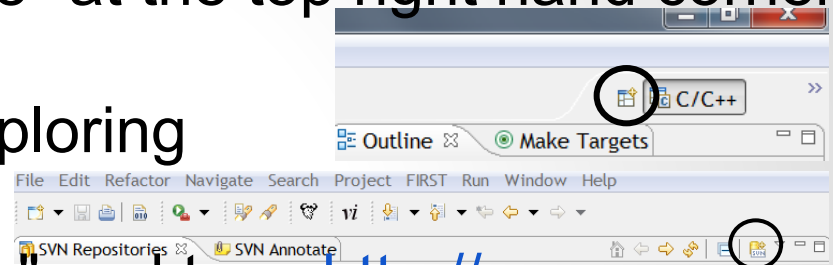
## Doxygen

**What:** Doxygen creates a neat documentation file for us from our documentation created in the code.

**Where:** <http://www.stack.nl/~dimitri/doxygen/>

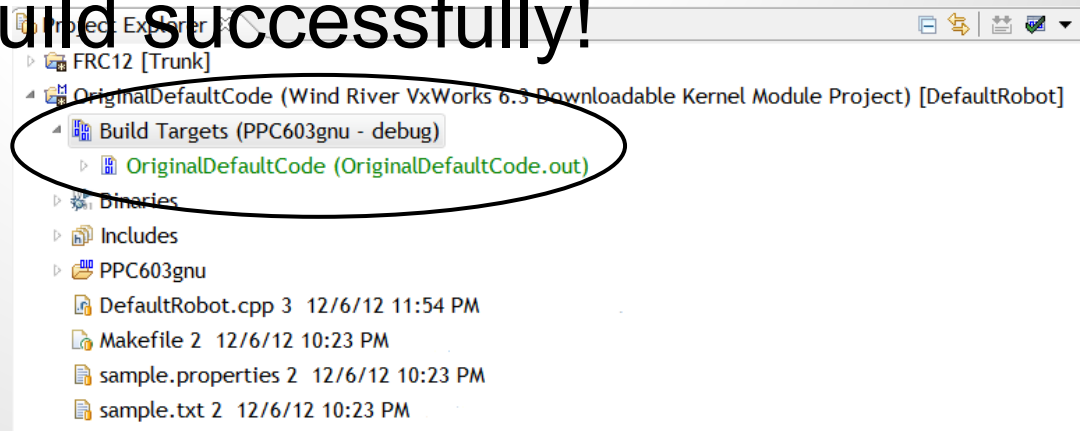
# Your first Wind River Project!

1. Click on "Open Perspective" at the top right hand corner
2. Click on "Other..."
3. Select SVN Repository Exploring and press OK
4. Click "Add SVN Repository" and type <http://svn.lynbrookrobotics.com:82/software2013> and click Finish
5. Right click "DefaultRobot" and click "Checkout..." and click Finish
6. The project will download into your workspace
7. Go back to the Advanced Device Development workspace and you should see the new project in the Project Explorer



# Your first Wind River Project!

1. Go to the Project Explorer and expand the newly created project
2. Right click "Build Targets" and click "New Build Target..." and click Finish
3. Delete the old build target
4. Go to Project > Build Project and the project should now build successfully!



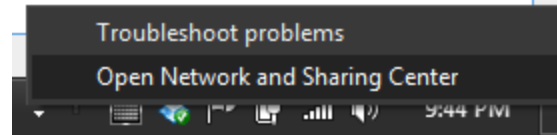


# Setting up Wind River for FIRST

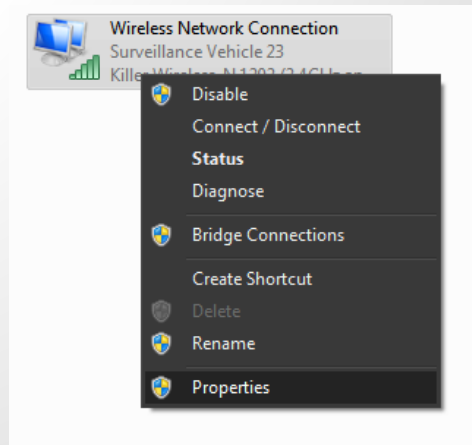
1. Go to Windows > Preferences
2. Click "FIRST Downloader Preferences"
3. In the field labeled "Team Number," type "846"
4. Click "Browse..." and select your compiled program, usually in `(project_dir)`  
`\PPC603gnu\DefaultRobot\Debug\DefaultRobo`  
`t.out`
5. Click Apply, then OK

# Setting up your computer to deploy

1. Right click the wifi icon in the taskbar, and click "Open Network and Sharing Center"



2. Click "Change Adapter Settings"
3. Right click your wireless adapter, and click "Properties"

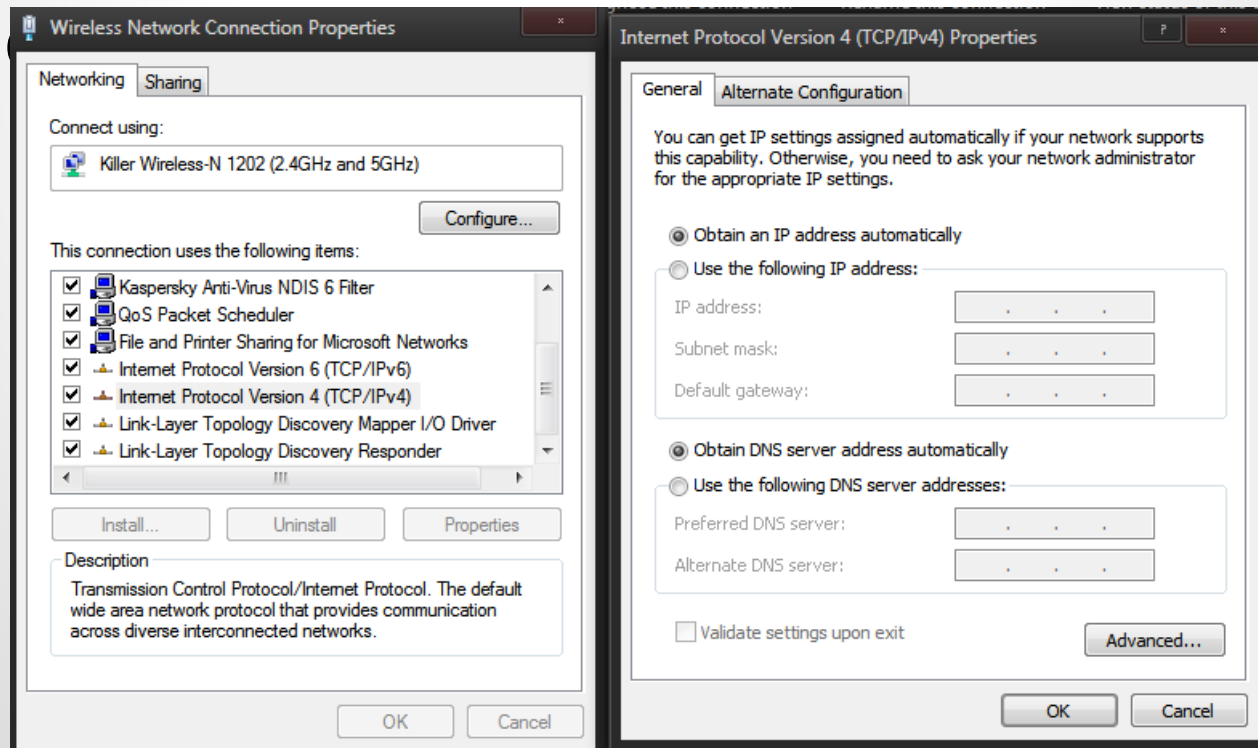


# Setting up your computer to deploy

4. Click "Internet Protocol Version 4 (TCP/IPv4)"

5. Click "Properties"

6. Call IP.



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# Deploying your code to the robot

Come to us and we'll deploy your code to the robot.

**That's it!**

Congratulations! You have successfully set up Wind River and can now begin developing for the robot!

**Lecture Time :)**

Threads/Tasks

# Homework!

Create an asynchronous printf function.  
(Hint: You might need to make a separate class)

Good luck :)

If you need help, feel free to send an email or chat to one of us.

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[raphaelchang1227@gmail.com](mailto:raphaelchang1227@gmail.com)