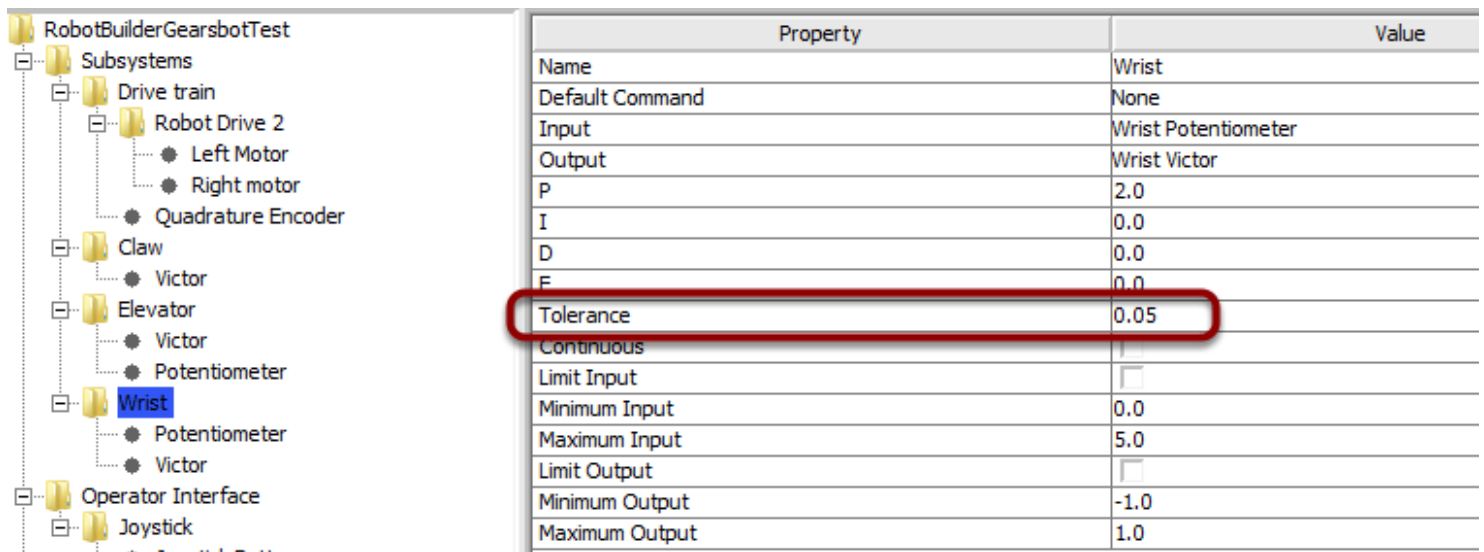


## Setpoint command

# Setpoint command

A common use case in robot programs is to drive an actuator to a particular angle or position that is measured using a potentiometer or encoder. This happens so often that there is a shortcut in RobotBuilder to do this task. It is called the Setpoint command and it's one of the choices on the palette or the right-click context menu that can be inserted under "Commands".

## Start with a PIDSubsystem



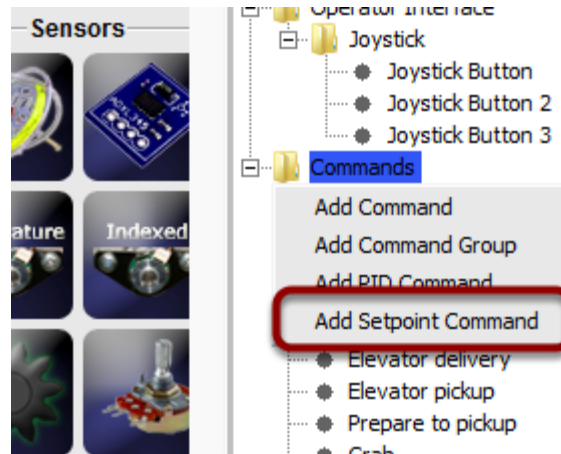
Property	Value
Name	Wrist
Default Command	None
Input	Wrist Potentiometer
Output	Wrist Victor
P	2.0
I	0.0
D	0.0
F	0.0
<b>Tolerance</b>	<b>0.05</b>
Continuous	<input type="checkbox"/>
Limit Input	<input type="checkbox"/>
Minimum Input	0.0
Maximum Input	5.0
Limit Output	<input type="checkbox"/>
Minimum Output	-1.0
Maximum Output	1.0

Suppose in a robot there is a wrist joint with a potentiometer that measures the angle. First create a [PIDSubsystem](#) that include the motor that moves the wrist joint and the potentiometer that measures the angle. The PIDSubsystem should have all the PID constants filled in and working properly.

It is important to set the Tolerance parameter. This controls how far off the current value can be from the setpoint and be considered on target. This is the criteria that the SetpointCommand uses to move onto the next command.

# Setpoint command

## Creating the Setpoint Command



Right-click on the Commands folder in the palette and select "Add Setpoint command".

## Setpoint Command parameters

table C++ Getting Started		
Property		Value
Name	Wrist up	
Requires	Wrist	
Setpoint	3.2	

Fill in the name of the new command. The Requires field is the PIDSubsystem that is being driven to a setpoint and the Setpoint parameter is the setpoint value for the PIDSubsystem. There is no need to fill in any code for this command, it is automatically created by RobotBuilder.

Whenever this command is scheduled, it will automatically drive the subsystem to the specified setpoint. When the setpoint is reached within the tolerance specified in the PIDSubsystem, the command ends and the next command starts. It is important to specify a tolerance in the PIDSubsystem or this command might never end because the tolerance is not achieved.