KBSW190927 Win32 - Get the data of sensors

This document introduces the demo project of "go_sensor_value", including how to get the data of sersors like type,installation position and value.

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IDE Preperation

- ### Software
  - Visual Studio 2010 SP1
  - Slamware Windows SDK:Slamware Windows SDK
  - RoboStudio(for map display):Robostudio installer
  - Sample Code:

> Higher version of Visual Studio will cause errors. Sometime you will need to upgrade SP1 package to make your VS compatable with .Net Framework.

- ### Hardware

Either one of following

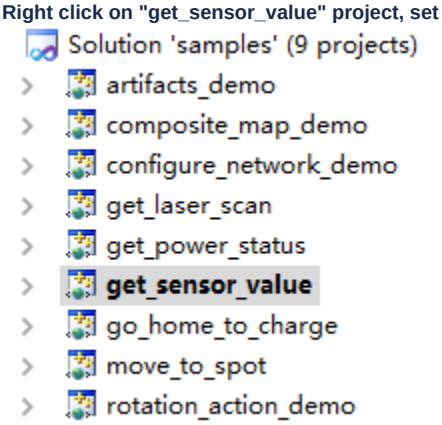
  - Slamware SDP mini
  - Slamware SDP
  - Slamware Kit
  - Zeus/Apollo robot base

Download

Win32-Demo

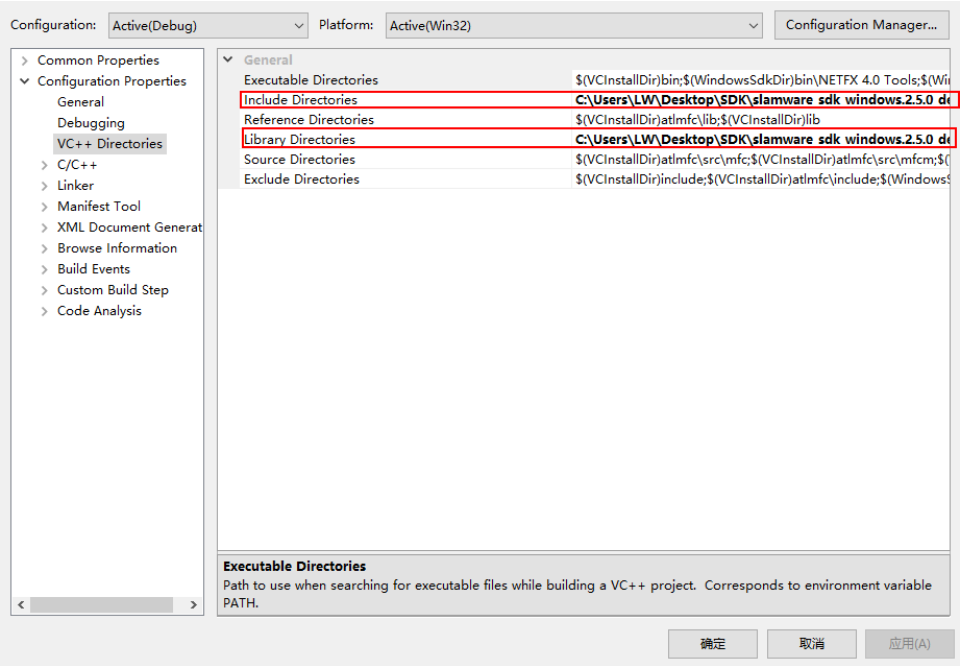
Compiling

1. **Right click on "get_sensor_value" project, set as StartUp project.**

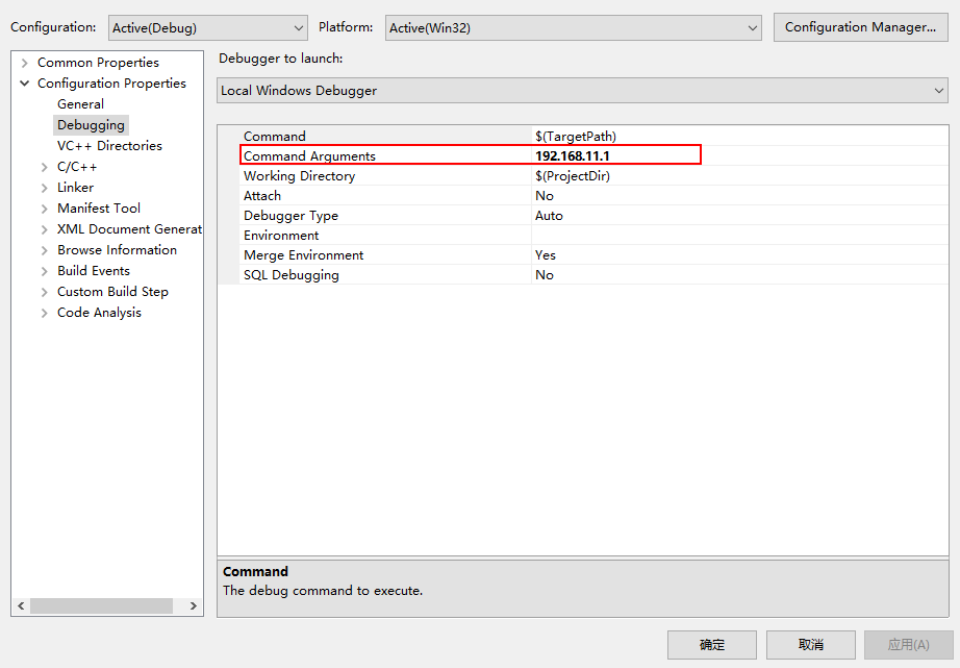


2. **Right click on "get_sensor_value", then " Properties"configure "include" and "lib" directories to the corresponding folder path of Slamware SDK.**

It's not necessary to copy files to the project directory, user will only need to configure the path of SDK.



3. **Right click on "get_sensor_value", then "properties"set "Command Arguments" as follows:**
   Syntax get_sensor_value <IP address>>



4. **Click " F5" to execute.**

5. **The output from console will be as follows(0, 1 is used to indicate the trigger state of the bumper. If it's triggered, the value is 0.):**

```
PS C:\Users\LW\Desktop\SDK\samples\samples\Debug> .\get_sensor_value.exe 192.168.11.1
Connecting SDP @ 192.168.11.1...
SDK Version: 2.5.0_dev
SDP Version: 2.6.0_dev-sdp_vre-20171219
Sensor id : 0
Sensor Kind: Bumper
Sensor Type: Digital
Sensor Position: ( 0.12 , 0.12 , 0.05 ) ;  Yaw = 0.785398
Sensor Value : 3.40282e+038
Sensor id : 1
Sensor Kind: Bumper
Sensor Type: Digital
Sensor Position: ( 0.12 , -0.12 , 0.05 ) ;  Yaw = 5.49779
Sensor Value : 0
Sensor id : 2
Sensor Kind: Cliff
Sensor Type: Digital
Sensor Position: ( 0.044 , 0.1642 , -0.02 ) ;  Yaw = 1.309
Sensor Value : 3.40282e+038
Sensor id : 3
Sensor Kind: Cliff
Sensor Type: Digital
Sensor Position: ( 0.147 , 0.085 , -0.02 ) ;  Yaw = 0.523599
Sensor Value : 3.40282e+038
Sensor id : 4
Sensor Kind: Cliff
Sensor Type: Digital
Sensor Position: ( 0.147 , -0.085 , -0.02 ) ;  Yaw = 5.75959
Sensor Value : 3.40282e+038
Sensor id : 5
Sensor Kind: Cliff
Sensor Type: Digital
Sensor Position: ( 0.044 , -0.1642 , -0.02 ) ;  Yaw = 4.97419
Sensor Value : 3.40282e+038
```

Code

- Get the data of the sensors

Get the data of the sensors

```
		SlamwareCorePlatform sdp = SlamwareCorePlatform::connect(argv[1], 1445);
	std::cout <<"SDK Version: " << sdp.getSDKVersion() << std::endl;
	std::cout <<"SDP Version: " << sdp.getSDPVersion() << std::endl;

		std::vector<ImpactSensorInfo> sensors;
		bool result = sdp.getSensors(sensors);
		if (result) {
			for (std::vector<ImpactSensorInfo>::iterator it = sensors.begin(); it != sensors.
end(); ++it) {
				std::cout << "Sensor id : " << it->id << std::endl;
				if (it->kind == ImpactSensorKindBumper)
					std::cout << "Sensor Kind: Bumper" << std::endl;
				else if (it->kind == ImpactSensorKindCliff)
					std::cout << "Sensor Kind: Cliff" << std::endl;
				else if (it->kind == ImpactSensorKindSonar)
					std::cout << "Sensor Kind: Sonar" << std::endl;
				else
					return 1;
				if (it->type == ImpactSensorTypeAnalog)
					std::cout << "Sensor Type: Analog" << std::endl;
				else if (it->type == ImpactSensorTypeDigital)
					std::cout << "Sensor Type: Digital" << std::endl;
				else
					return 1;
				std::cout << "Sensor Position: ( " <<  it->pose.x() << " , " << it->pose.
y() << " , " << \
					it->pose.z() << " ) ;  Yaw = " << it->pose.yaw() << std::endl;
				ImpactSensorValue value;
				sdp.getSensorValue(it->id, value);
				std::cout << "Sensor Value : " << value.value<< std::endl;
			}
		}
```