

KBSW190927 Win32 - Get the data of sensors

This document introduces the demo project of "go_sensor_value", including how to get the data of sensors 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

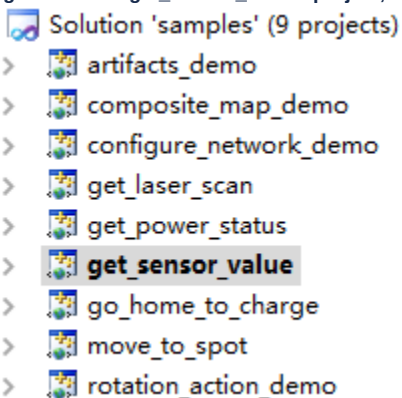
- Slamware SDP mini
- Slamware SDP
- Slamware Kit
- Zeus/Apollo robot base

Download

[Win32-Demo](#)

Compiling

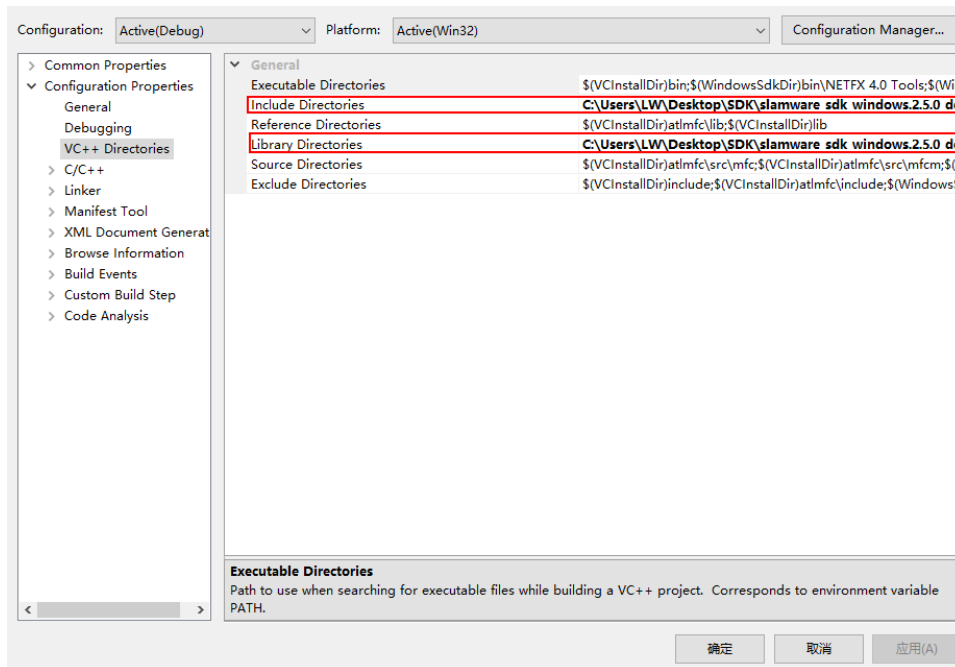
1. Right click on "get_sensor_value" project, set as StartUp project.



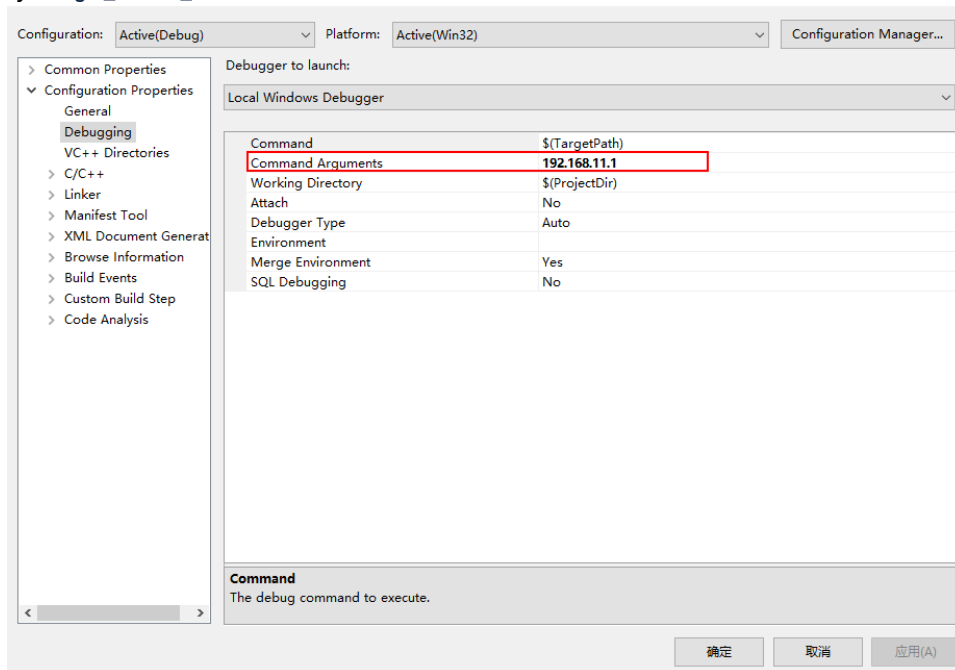
2. Right click on "get_sensor_value", then " Properties"configure "include" and "lib" directories to the corresponding folder path of Slamware SDK.



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\l\l\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;
    }
}
```