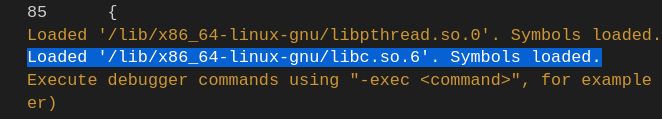


***Package na***

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Loaded '/lib/x86\_64-linux-gnu/libc.so.6'. Symbols loaded.

如上就是libc的引用路径，如上可以看见具体位置



可以发现这里是一个软连接，这里连接的2.31的版本

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| zonesion@zonesion:~/glibc-2.18/build$ strings /lib/x86\_64-linux-gnu/libc.so.6 |grep GLIBC\_  GLIBC\_2.2.5  GLIBC\_2.2.6  GLIBC\_2.3  GLIBC\_2.3.2  GLIBC\_2.3.3  GLIBC\_2.3.4  GLIBC\_2.4  GLIBC\_2.5  GLIBC\_2.6  GLIBC\_2.7  GLIBC\_2.8  GLIBC\_2.9  GLIBC\_2.10  GLIBC\_2.11  GLIBC\_2.12  GLIBC\_2.13  GLIBC\_2.14 |

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| --- |
| zonesion@zonesion:~$ sudo apt list libc6  正在列表... 完成  libc6/now 2.31-0ubuntu9.9 amd64 [已安装，本地]  libc6/now 2.31-0ubuntu9.9 i386 [已安装，本地] |

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| onesion@zonesion:~$ sudo apt-get install libc6  正在读取软件包列表... 完成  正在分析软件包的依赖关系树  正在读取状态信息... 完成  libc6 已经是最新版 (2.31-0ubuntu9.9)。  升级了 0 个软件包，新安装了 0 个软件包，要卸载 0 个软件包，有 424 个软件包未被升级。 |

<https://blog.csdn.net/wq_0708/article/details/121105055>

方法二（共存法）：

apt源不支持更高版本的glibc时也可采用此方法，如ubuntu18.04不支持glibc-2.29。

查看glibc版本：

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| wget http://ftp.gnu.org/pub/gnu/glibc/glibc-2.29.tar.gz  tar -zxf glibc-2.29.tar.gz  cd glibc-2.29  mkdir build && cd build  apt-get install gawk bison -y  ../configure --prefix=/usr/local/glibc-2.29  make -j4  make install  ————————————————  版权声明：本文为CSDN博主「wq\_0708」的原创文章，遵循CC 4.0 BY-SA版权协议，转载请附上原文出处链接及本声明。  原文链接：https://blog.csdn.net/wq\_0708/article/details/121105055 |

### 自己使用

自己使用2.28的版本

zonesion@zonesion:~$ wget http://ftp.gnu.org/gnu/glibc/glibc-2.28.tar.gz

--2022-12-07 20:49:03-- http://ftp.gnu.org/gnu/glibc/glibc-2.28.tar.gz

正在解析主机 ftp.gnu.org (ftp.gnu.org)... 209.51.188.20, 2001:470:142:3::b

正在连接 ftp.gnu.org (ftp.gnu.org)|209.51.188.20|:80... 已连接。

已发出 HTTP 请求，正在等待回应... 200 OK

长度： 32584904 (31M) [application/x-gzip]

正在保存至: “glibc-2.28.tar.gz”

glibc-2.28.tar.gz 100%[===================>] 31.08M 50.1KB/s 用时 9m 25s

2022-12-07 20:58:29 (56.3 KB/s) - 已保存 “glibc-2.28.tar.gz” [32584904/32584904])

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| zonesion@zonesion:~/glibc-2.28/build$ ../configure --prefix=/usr/local/glibc-2.28  checking build system type... x86\_64-pc-linux-gnu  checking host system type... x86\_64-pc-linux-gnu  checking for gcc... gcc  checking for suffix of object files... o  checking whether we are using the GNU C compiler... yes  checking whether gcc accepts -g... yes  checking for readelf... readelf  checking for g++... g++  checking whether we are using the GNU C++ compiler... yes  checking whether g++ accepts -g... yes  checking whether g++ can link programs... yes  checking for sysdeps preconfigure fragments... aarch64 alpha arm hppa i386 m68k microblaze mips nios2 powerpc riscv s390 sh sparc x86\_64 checking whether gcc compiles in -mx32 mode by default... no  checking for use of fpu sysdeps directories... yes  checking for -fstack-protector... yes  checking for -fstack-protector-strong... yes  checking for -fstack-protector-all... yes  checking for assembler and linker STT\_GNU\_IFUNC support... yes  checking for gcc attribute ifunc support... yes  checking if compiler warns about alias for function with incompatible types... no  checking sysdep dirs... sysdeps/unix/sysv/linux/x86\_64/64 sysdeps/unix/sysv/linux/x86\_64 sysdeps/unix/sysv/linux/x86 sysdeps/x86/nptl sysdeps/unix/sysv/linux/wordsize-64 sysdeps/x86\_64/nptl sysdeps/unix/sysv/linux sysdeps/nptl sysdeps/pthread sysdeps/gnu sysdeps/unix/inet sysdeps/unix/sysv sysdeps/unix/x86\_64 sysdeps/unix sysdeps/posix sysdeps/x86\_64/64 sysdeps/x86\_64/fpu/multiarch sysdeps/x86\_64/fpu sysdeps/x86/fpu sysdeps/x86\_64/multiarch sysdeps/x86\_64 sysdeps/x86 sysdeps/ieee754/float128 sysdeps/ieee754/ldbl-96 sysdeps/ieee754/dbl-64/wordsize-64 sysdeps/ieee754/dbl-64 sysdeps/ieee754/flt-32 sysdeps/wordsize-64 sysdeps/ieee754 sysdeps/generic  checking for a BSD-compatible install... /usr/bin/install -c  checking whether ln -s works... yes  checking whether as is GNU as... yes  checking whether ld is GNU ld... yes  checking for as... as  checking version of as... 2.34, ok  checking for ld... ld  checking version of ld... 2.34, ok  checking for gnumake... no  checking for gmake... no  checking for make... make  checking version of make... 4.2.1, ok  checking for gnumsgfmt... no  checking for gmsgfmt... no  checking for msgfmt... msgfmt  checking version of msgfmt... 0.19.8.1, ok  checking for makeinfo... no  checking for sed... sed  checking version of sed... 4.7, ok  checking for gawk... gawk  checking version of gawk... 5.0.1, ok  checking for bison... bison  checking version of bison... 3.5.1, ok  checking if gcc is sufficient to build libc... yes  checking for nm... nm  checking for python3... python3  configure: WARNING:  \*\*\* These auxiliary programs are missing or incompatible versions: makeinfo  \*\*\* some features or tests will be disabled.  \*\*\* Check the INSTALL file for required versions.  checking LD\_LIBRARY\_PATH variable... ok  checking for bash... /usr/bin/bash  checking for perl... /usr/bin/perl  checking for install-info... /usr/bin/install-info  checking for .set assembler directive... yes  checking linker support for protected data symbol... yes  checking linker support for INSERT in linker script... yes  checking for broken \_\_attribute\_\_((alias()))... no  checking whether to put \_rtld\_local into .sdata section... no  checking whether to use .ctors/.dtors header and trailer... no  checking for libunwind-support in compiler... no  checking whether --noexecstack is desirable for .S files... yes  checking for -z combreloc... yes  checking for linker that supports -z execstack... yes  checking for linker that supports --no-dynamic-linker... yes  checking for -static-pie... no  checking for -fpie... yes  checking for --hash-style option... yes  checking for sufficient default -shared layout... yes  checking for GLOB\_DAT reloc... yes  checking linker output format... elf64-x86-64  checking for -fno-toplevel-reorder -fno-section-anchors... yes  checking for -mtls-dialect=gnu2... yes  checking whether cc puts quotes around section names... no  checking for \_\_builtin\_memset... yes  checking for redirection of built-in functions... yes  checking for compiler option to disable generation of FMA instructions... -ffp-contract=off  checking if gcc accepts -fno-tree-loop-distribute-patterns with \_\_attribute\_\_ ((\_\_optimize\_\_))... yes  checking for libgd... no  checking for is\_selinux\_enabled in -lselinux... yes  checking for audit\_log\_user\_avc\_message in -laudit... no  checking for cap\_init in -lcap... no  checking for \_FORTIFY\_SOURCE predefine... yes  checking whether the linker provides working \_\_ehdr\_start... yes  checking for \_\_builtin\_trap with no external dependencies... yes  checking whether the C++ compiler supports thread\_local... yes  running configure fragment for sysdeps/unix/sysv/linux/x86\_64/64  running configure fragment for sysdeps/unix/sysv/linux/x86\_64  running configure fragment for sysdeps/unix/sysv/linux  checking installed Linux kernel header files... 3.2.0 or later  checking for kernel header at least 3.2.0... ok  checking for symlinks in /usr/local/glibc-2.28/include... ok  running configure fragment for sysdeps/gnu  running configure fragment for sysdeps/x86\_64  checking for AVX512DQ support in assembler... yes  checking for AVX512 support... yes  checking for Intel MPX support... yes  running configure fragment for sysdeps/x86  checking whether -fPIC is default... yes  checking whether -fPIE is default... yes  configure: creating ./config.status  config.status: creating config.make  config.status: creating Makefile  config.status: creating config.h  config.status: executing default commands  [zonesion@zonesion:~/glibc-2.28/build$](mailto:zonesion@zonesion:~/glibc-2.28/build$)  配置完成后编译，编译时间长。 |

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注：

configure最好不要加--with-headers参数，否则会遇到一些问题，因为这个参数指定make在该目录下查找库，参考linux下安装glibc-2.14——zhj失落之地CSDN

install后不可直接删除旧版软链接，如libm.so.6等，否则会导致系统崩溃。应备份后创建同名软连接指向新版：

mv /lib/x86\_64-linux-gnu/libm.so.6 /lib/x86\_64-linux-gnu/libm.so.6.bak

ln -s /usr/local/glibc-2.29/lib/libm.so.6 /lib/x86\_64-linux-gnu/libm.so.6

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原文链接：https://blog.csdn.net/wq\_0708/article/details/121105055

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| /lib/x86\_64-linux-gnu/libc.so.6 |

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| sudo mv /lib/x86\_64-linux-gnu/libc.so.6 /lib/x86\_64-linux-gnu/libc.so.6.bk.before  sudo ln -s /lib/x86\_64-linux-gnu/libc-2.23.so /lib/x86\_64-linux-gnu/libc.so.6 |

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### 在pthread\_create线程中调用popen函数出错

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| --- |
| static void\* thread\_service\_proc(void \*args)  {  service\_proc\_args\_t\* argv = (service\_proc\_args\_t\*)args;  long int msgtype = 0;  FILE \* fp;  char buff[128]={0};  while(1){  if (msgrcv(argv->msg\_queue->msg\_id, (void \*)&argv->msg\_queue->msg\_st, MSGBUFSIZE, msgtype, 0) == -1) {  fprintf ( stderr, "msgrcv failed width erro: %d\r\n", errno );  sleep(1);  }  printf ( "You wrote: %s\r\n", argv->msg\_queue->msg\_st.text );  //fp = popen("rosservice call /vnode\_xarm/joint\_target \"joint: '0/-44/89/89/0'\"", "r");  fp = popen("ls", "r");  printf("fp is %d\r\n",fp);  if (fp == NULL){  return -1;  }  while((fgets(buff, 128-1, fp))!=NULL){  printf("argv->buffer %s\r\n",buff);  } |

在线程中的fgets函数时出现错误，调用这个函数时出现段错误，这个错误的出现可能是popen函数返回fp的参数错误。

|  |
| --- |
| >>> 00:0C:29:75:5A:39={V1=0/-44/89/89/0}  >>> {V1=0/-44/89/89/0}  You wrote: rosservice call /vnode\_xarm/joint\_target "joint: '0/-44/89/89/0'"  fp is -268433216 |

|  |
| --- |
| src/ros-service.c:29:13: warning: implicit declaration of function ‘sleep’ [-Wimplicit-function-declaration]  sleep(1);  ^~~~~  src/ros-service.c:34:14: warning: implicit declaration of function ‘popen’; did you mean ‘fopen’? [-Wimplicit-function-declaration]  fp = popen("ls", "r");  ^~~~~  fopen |

编译时候出现对这个函数定义不明确，并且询问我们是不是应该调用fopen’函数。显然错误了。

|  |
| --- |
| zonesion@zonesion:~/catkin\_ws$ **grep popen /usr/include/ -rn**  /usr/include/postgresql/internal/port.h:293: \* Mingw-w64 headers #define popen and pclose to \_popen and \_pclose. We want  /usr/include/postgresql/internal/port.h:294: \* to use our popen wrapper, rather than plain \_popen, so override that. For  /usr/include/postgresql/internal/port.h:297:#ifdef popen  /usr/include/postgresql/internal/port.h:298:#undef popen  /usr/include/postgresql/internal/port.h:305: \* system() and popen() replacements to enclose the command in an extra  /usr/include/postgresql/internal/port.h:309:extern FILE \*pgwin32\_popen(const char \*command, const char \*type);  /usr/include/postgresql/internal/port.h:312:#define popen(a,b) pgwin32\_popen(a,b)  /usr/include/libdap/PipeResponse.h:55: /\*\* @brief Initialize with a stream returned by popen().  /usr/include/libdap/PipeResponse.h:58: popen(). By default get\_type() and get\_version() return  /usr/include/libdap/PipeResponse.h:63: FILE\* returned by fopen() or popen(), you're on your own here. Make  /usr/include/libdap/PipeResponse.h:68: @param s Pointer to a pipe stream returned by popen().  /usr/include/dialog.h:721:extern FILE \* dlg\_popen(const char \* /\*command \*/, const char \* /\*type \*/);  /usr/include/x86\_64-linux-gnu/qt5/QtCore/qglobal.h:573:# define QT\_NO\_CRASHHANDLER // no popen  /usr/include/qt4/QtCore/qglobal.h:1381:# define QT\_NO\_CRASHHANDLER // no popen  /usr/include/qt4/Qt/qglobal.h:1381:# define QT\_NO\_CRASHHANDLER // no popen  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:164: void \*obtain\_mutex(const sync\_id &id, bool \*popen\_created = 0)  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:173: if(popen\_created) \*popen\_created = true;  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:175: else if(popen\_created){  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:176: \*popen\_created = false;  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:181: void \*obtain\_semaphore(const sync\_id &id, unsigned int initial\_count, bool \*popen\_created = 0)  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:190: if(popen\_created) \*popen\_created = true;  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:192: else if(popen\_created){  /usr/include/boost/interprocess/sync/windows/sync\_utils.hpp:193: \*popen\_created = false;  /usr/include/stdio.h:872:extern FILE \*popen (const char \*\_\_command, const char \*\_\_modes) \_\_wur;  /usr/include/stdio.h:874:/\* Close a stream opened by popen and return the status of its child.  /usr/include/wx-2.8/wx/wxPython/i\_files/\_process.i:92: // this function replaces the standard popen() one: it launches a process  /usr/include/wx-2.8/wx/process.h:47: // this function replaces the standard popen() one: it launches a process  zonesion@zonesion:~/catkin\_ws$ vi /usr/include/stdio.h  zonesion@zonesion:~/catkin\_ws$ vi /usr/include/stdio.h  zonesion@zonesion:~/catkin\_ws$ vi /usr/include/stdio.h  zonesion@zonesion:~/catkin\_ws$  zonesion@zonesion:~/catkin\_ws$  zonesion@zonesion:~/catkin\_ws$ vi /usr/include/stdio.h  zonesion@zonesion:~/catkin\_ws$  zonesion@zonesion:~/catkin\_ws$ vi /usr/include/stdio.h |

打开/usr/include/stdio.h文件，到872行

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| --- |
| #ifdef \_\_USE\_POSIX2  /\* Create a new stream connected to a pipe running the given command.  This function is a possible cancellation point and therefore not  marked with \_\_THROW. \*/  extern FILE \*popen (const char \*\_\_command, const char \*\_\_modes) \_\_wur;  /\* Close a stream opened by popen and return the status of its child.  This function is a possible cancellation point and therefore not  marked with \_\_THROW. \*/  extern int pclose (FILE \*\_\_stream);  #endif |

知道如上函数，这里可以定义这个\_\_USE\_POSIX2方式。

Makefile加上这个选项。

|  |
| --- |
| CFLAGS := -Wall -DSENSOR\_TYPE=$(SENSOR\_TYPE) -DNODE\_MAC=\"$(NODE\_MAC)\" -D\_\_USE\_POSIX2  CFLAGS += -std=c99 |

但是最后加上这个-D\_\_USE\_POSIX2也没有用。

徐工的方法是如下，加上申明。

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| --- |
| #include <string.h>  #include <stdio.h>  #include <stdlib.h>  #include <stdint.h>  #include <unistd.h>  #include <pthread.h>  #include "ros-sensor.h"    FILE \*popen(char\*, char \*);  void\* thread\_topic\_proc(void \*args) |

#### 最后问题解决如下：

<https://blog.csdn.net/David_xtd/article/details/14104201>

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| 问题：  ubuntu中使用gcc 4.6.3编译代码。  源代码中使用了popen()和pclose()函数，当源代码没使能c99选项前，编译结果不报warnings；使能c99选项后（gcc -std=c99），编译时出现warnings：  controller.c:482:5: warning: implicit declaration of function ‘popen’ [-Wimplicit-function-declaration]  controller.c:482:18: warning: initialization makes pointer from integer without a cast [enabled by default]  解决办法：  1. 源代码中已经包含了popen()和pclose()的头文件#include <stdio.h>，这也是不加-std=c99时不报warnings的原因；  2. 将-std=c99替换为-std=gnu99；重新编译，warning消失。  ————————————————  版权声明：本文为CSDN博主「David\_xtd」的原创文章，遵循CC 4.0 BY-SA版权协议，转载请附上原文出处链接及本声明。  原文链接：https://blog.csdn.net/David\_xtd/article/details/14104201 |

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| --- |
| CFLAGS := -Wall -DSENSOR\_TYPE=$(SENSOR\_TYPE) -DNODE\_MAC=\"$(NODE\_MAC)\"  CFLAGS += -std=gnu99 |

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