<https://www.cnblogs.com/batman425/archive/2013/08/16/3261673.html>

最近在搞C语言连接Oracle、DB2数据库，现把C连接Oracle的文章总结下：

用C语言连接ORACLE数据库。  
有两个思路和目的

思路一）  
本地环境：UBUNTU 7.04,ORACLE 10G  
目的:用C语连接本地数据库sid:umail,ip:127.0.0.1,用户名:umail，密码:umail,表tt1.  
显示表tt1的所有记录.

思路二）  
远程环境服务器1：linux es3  
远程数据库：oracle9i  
目的:在远程一台服务器上，再远程连接数据库，用户名和表同上  
显示表tt1的所有记录.

一）思路一解决办法：

1) 查看/etc/profile文件  
export ORACLE\_BASE=/share/oracle  
export ORACLE\_HOME=$ORACLE\_BASE/product/10.2.1  
export ORACLE\_SID=umail  
export PATH=$PATH:$HOME/bin:$ORACLE\_HOME/bin  
export LD\_LIBRARY\_PATH=$ORACLE\_HOME/lib:/usr/lib:$LD\_LIBRARY\_PATH  
export JAVA\_HOME=/share/jdk  
export AWT\_TOOLKIT=MToolkit  
作用：解决tnsnames.ora问题

2)更改$ORACLE\_HOME/precomp/admin/pcscfg.cfg  
sys\_include=(/usr/include,/usr/lib/gcc/i486-linux-gnu/4.1.2/include,/usr/lib/gcc/i486-linux-gnu/3.4.6/include,/share/oracle/product/10.2.1/precomp/public,/usr/include/sys)  
include=(/share/oracle/product/10.2.1/precomp/public)  
include=/share/oracle/product/10.2.1/precomp/hdrs  
include=/share/oracle/product/10.2.1/tpcc2x\_2/src  
include=/share/oracle/product/10.2.1/precomp/precomp/include  
include=/share/oracle/product/10.2.1/precomp/oracore/include  
include=/share/oracle/product/10.2.1/precomp/oracore/public  
include=/share/oracle/product/10.2.1/precomp/rdbms/include  
include=/share/oracle/product/10.2.1/precomp/rdbms/public  
include=/share/oracle/product/10.2.1/precomp/rdbms/demo  
include=/share/oracle/product/10.2.1/precomp/nlsrtl/include  
include=/share/oracle/product/10.2.1/precomp/nlsrtl/public  
include=/share/oracle/product/10.2.1/precomp/network\_src/include  
include=/share/oracle/product/10.2.1/precomp/network\_src/public  
include=/share/oracle/product/10.2.1/precomp/network/include  
include=/share/oracle/product/10.2.1/precomp/network/public  
include=/share/oracle/product/10.2.1/precomp/plsql/public  
ltype=short

3)新test.pc文件，如下:

#include <stdio.h>

EXEC SQL INCLUDE SQLCA;

int main()  
{  
     //声明SQL变量  
     EXEC SQL BEGIN DECLARE SECTION;  
     VARCHAR user[20],pass[20],tnsname[20];  
     //VARCHAR预编译后为struct { unsigned short len; unsigned char arr[20];}  
     char ename[20];  
     int empno;  
     EXEC SQL END DECLARE SECTION;  
       
     //声明C变量  
     int i=0;  
       
     //变量赋值  
     strcpy(user.arr,"umail");  
     user.len=(unsigned short)strlen((char \*)user.arr);  
     strcpy(pass.arr,"umail");  
     pass.len=(unsigned short)strlen((char \*)pass.arr);  
     strcpy(tnsname.arr,"umail");  
     tnsname.len=(unsigned short)strlen((char \*)tnsname.arr);  
       
     //连接数据库  
     EXEC SQL CONNECT :user IDENTIFIED BY :pass USING :tnsname;

     EXEC SQL declare emp\_cursor cursor for  
                                          select id,ename from umail.tt1;

     EXEC SQL open emp\_cursor;

     EXEC SQL WHENEVER NOT FOUND DO break;

     while(1)  
     {  
           EXEC SQL fetch emp\_cursor into :empno,:ename;  
           printf("the empno %d/'s name is %s/n",empno,ename);  
           i=i+1;  
     }  
       
     printf("Yeah!We get %d records/n",i);

     EXEC SQL close emp\_cursor;  
       
     EXEC SQL commit work release;  
}

3)更改tnsname文件如下:

UMAIL =  
  (DEscrīptION =  
    (ADDRESS = (PROTOCOL = TCP)(HOST = 127.0.0.1)(PORT = 1521))  
    (CONNECT\_DATA =  
      (SERVER = DEDICATED)  
      (SERVICE\_NAME = umail)  
    )  
  )

EXTPROC\_CONNECTION\_DATA =  
  (DEscrīptION =  
    (ADDRESS\_LIST =  
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC0))  
    )  
    (CONNECT\_DATA =  
      (SID = PLSExtProc)  
      (PRESENTATION = RO)  
    )  
  )

4)编译方法:  
预编译 proc test.pc  
注：这步是依赖于$ORACLE\_HOME/precomp/admin/pcscfg.cfg

编译:  
gcc -o test test.c $ORACLE\_HOME/lib/libclntsh.so

思路二解决办法：  
1)在远程服务器上新建一个放tnsname.ora的目录  
mkdir -p /root/network/admin

2)修改tnsname.ora文件，加入远程数据库信息，如下:  
db =  
 (DEscrīptION =  
    (ADDRESS = (PROTOCOL = TCP)(HOST = 192.168.6.217)(PORT = 1521))  
    (CONNECT\_DATA =  
      (SERVER = DEDICATED)  
      (SERVICE\_NAME = umail)  
    )  
  )

3)将以上的tnsname.ora放入到/root/network/admin下面  
scp tnsname.ora 192.168.6.197:/root/network/admin

4)在远程服务器上，将/etc/profile修改如下：  
增加以下内容:  
export ORACLE\_HOME=/root  
用su -加载环境变量

5)在本地，更改上一个实验的test.pc文件  
       
原内容：  
strcpy(tnsname.arr,"umail");  
tnsname.len=(unsigned short)strlen((char \*)tnsname.arr);

更改后的内容:  
strcpy(tnsname.arr,"db");  
tnsname.len=(unsigned short)strlen((char \*)tnsname.arr);

6)利用本地环境重新编译test.pc

预编译 proc test.pc

scp test.c 192.168.6.197:/tmp

编译:  
gcc -o test test.c /usr/lib/libclntsh.so.10.1

7)将test上传到远程服务器  
scp test 192.168.6.197:/tmp

8)将libclntsh.so.10.1,libnnz10.so上传到远程服务器的/usr/lib下面  
scp libclntsh.so.10.1 192.168.6.197:/usr/lib  
scp libnnz10.so 192.168.6.197:/usr/lib

9)执行测试test  
cd /tmp;./test

<http://blog.csdn.net/lidongtang/article/details/5859578>