

CS3431: Pro*C/Oracle Instruction

1 Setup

1. To use Pro*C, you must connect to *CCC.WPI.EDU*
2. Setup Pro*C:

“source /usr/local/bin/mngoraenv” which defines the library path.

3. Setup Oracle:

Put the following into your ~/.cshrc file

```
setenv ORACLE_BASE /usr/local/oracle/app/oracle
setenv ORACLE_HOME ${ORACLE_BASE}/product/9.2.0.1
setenv PATH ${PATH}:${ORACLE_HOME}/bin
setenv ORACLE_SID cs
setenv TWO_TASK ${ORACLE_SID}
```

Run source .cshrc

2 Sample Pro*C/Oracle Code

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sqlca.h>

void sql_error(char *msg)
{
    printf("%s", msg);
    exit(1);
}

int main()
{
    char temp_char[32];

    //declare host variables
    EXEC SQL BEGIN DECLARE SECTION;
    VARCHAR username[32];
    VARCHAR password[32];
    VARCHAR str[33];
    EXEC SQL END DECLARE SECTION;
```

```

//Copy the username and password into the VARCHAR.
strncpy((char *) username.arr, "YOUR_USERNAME", 32);
username.len = strlen((char *) username.arr);
strncpy((char *) password.arr, "YOUR_PASSWORD", 32);
password.len = strlen((char *) password.arr);

//Register sql_error() as the error handler.
EXEC SQL WHENEVER SQLERROR DO sql_error("ORACLE ERROR: \n");
//Connect to ORACLE.  Program will call sql_error()
//if an error occurs when connecting to the default database.
EXEC SQL CONNECT :username IDENTIFIED BY :password;
printf("\nConnected to ORACLE as user: %s\n", username.arr);

//create a table
EXEC SQL CREATE TABLE hello (message varchar(32));
//insert data
EXEC SQL INSERT INTO hello VALUES ('Hello World!');

//query the db
EXEC SQL DECLARE tmp CURSOR FOR SELECT message FROM hello;
EXEC SQL OPEN tmp;
EXEC SQL WHENEVER NOT FOUND DO break;
for (;;)
{
    EXEC SQL FETCH tmp INTO :str;
    str.arr[str.len] = '\0';
    printf("%s\n", str.arr);
}
EXEC SQL CLOSE tmp;
// Disconnect from ORACLE
EXEC SQL COMMIT WORK RELEASE;
exit(0);
}

```

3 Compile and Execute

Pre-compile: \$ORACLE_HOME/bin/proc iname=sample.pc code=cpp parse=none

Compile:

```

g++ -I$ORACLE_HOME/precomp/public/ sample.c -I$ORACLE_HOME/lib/
-lclntsh -lm

```

Execute:

```

./a.out

```

4 Some Other Resources

<http://www-db.stanford.edu/~ullman/fcdb/oracle/or-proc.html>