

## t0Pn04: PostgreSQL API #3: libpq

```
1 #define BACKEND "basil.cs.uwp.edu"
2
3 #include <stdio.h>
4 #include "libpq-fe.h"
5
6 int main(void)
7 {
8     char    *pghost, *pgport, *pgoptions, *pgtty, *dbName;
9     int     numfields, numtuples;
10    int     i,j;
11    PGconn   *conn;
12    PGresult *res;
13
14    pghost = BACKEND;
15    pgport = pgoptions = pgtty = NULL;
16    dbName = "spj";
17
18    conn = PQsetdb(pghost, pgport, pgoptions, pgtty, dbName);
19
20    if (PQstatus(conn) == CONNECTION_BAD) {
21        fprintf(stderr, "Connection to database '%s' failed.\n", dbName);
22        fprintf(stderr, "%s", PQerrorMessage(conn));
23        PQfinish(conn);
24        exit(1);
25    }
26
27    res = PQexec(conn, "BEGIN");
28
29    if (PQresultStatus(res) != PGRES_COMMAND_OK) {
30        fprintf(stderr, "BEGIN command failed\n");
31        PQclear(res);
32        PQfinish(conn);
33        exit(1);
34    }
35    PQclear(res);
36
37    res = PQexec(conn, "DECLARE myportal CURSOR FOR select * from s");
38
39    if (PQresultStatus(res) != PGRES_COMMAND_OK) {
40        fprintf(stderr, "DECLARE CURSOR command failed\n");
41        PQclear(res);
42        PQfinish(conn);
43        exit(1);
44    }
45    PQclear(res);
46
```

## t0Pn04 (continued): PostgreSQL API #3: libpq

```
47     res = PQexec(conn, "FETCH ALL in myportal");
48
49     if (PQresultStatus(res) != PGRES_TUPLES_OK) {
50         fprintf(stderr, "FETCH ALL failed.\n");
51         PQclear(res);
52         PQfinish(conn);
53         exit(1);
54     }
55
56     numfields = PQnfields(res);
57
58     for (i=0; i < numfields; i++) {
59         printf("%-15s", PQfname(res, i));
60     }
61     printf("\n\n");
62
63     numtuples = PQntuples(res);
64
65     for (i=0; i < numtuples; i++) {
66         for (j=0; j < numfields; j++) {
67             printf("%-15s", PQgetvalue(res, i, j));
68         }
69         printf("\n");
70     }
71
72     PQclear(res);
73
74     res = PQexec(conn, "CLOSE myportal");
75     PQclear(res);
76
77     res = PQexec(conn, "END");
78     PQclear(res);
79
80     PQfinish(conn);
81     return 0;
82 }
```