

# 1 Creating and Testing Open List API UDTFs

This document contains the steps required to create a User Defined Table Function or UDTF based on the IBM i Open List Creation and Processing System APIs.

## 1.1 Compiling Instructions

### 1.1.1 Downloading the source

First extract all files from the accompanying zip file. Choose either the QCBLLEUDF (COBOL source) or the QRPGLLEUDF (RPG source) depending on your programming language preference.

The source was exported from Rational Developer for Power. If you are using Rational then import the source file into a project. If you are not using Rational then use whatever means to create the appropriate IBM i source physical file and copy the source member OPNLSTOBJ to the new file..

### 1.1.2 Creating the Database SQL Service Program

Use the following IBM i OS commands to create the service program:

```
CHGCURLIB <Library containing source file>
```

The following commands create the COBOL program objects:

```
CRTCBLMOD MODULE(OPNLSTOBJ) SRCFILE(*CURLIB/QCBLLEUDF)  
SRCMBR(OPNLSTOBJ) DBGVIEW(*SOURCE)
```

```
CRTSRVPGM SRVPGM(OPNLSTOBJ)  
MODULE(*CURLIB/OPNLSTOBJ) EXPORT(*ALL) TGTRLS(*CURRENT
```

The following commands create the RPG program objects:

```
CRTRPGMOD MODULE(OPNLSTOBJ) SRCFILE(*CURLIB/QRPGLLEUDF)  
SRCMBR(OPNLSTOBJ) DBGVIEW(*SOURCE)
```

```
CRTSRVPGM SRVPGM(OPNLSTOBJ) MODULE(*CURLIB/OPNLSTOBJ)  
EXPORT(*ALL) TGTRLS(*CURRENT)
```

Verify the create commands completed successfully.

## 1.2 Create the Object Detail UDTF

Open the appropriate SQL script (depending on your programming language preference) starting with CreateFunctionTable\_ using your SQL script tool of choice (i.e., Rational Data Project Explorer, System i Navigator Run SQL Scripts, etc).

Enter the following SQL statement prior to the DROP FUNCTION statement within the SQL Script:

```
SET SCHEMA <use the same library used for the compile and create commands>;
```

Run the script and verify the function created successfully.

### **1.3 Testing the UDTF**

Open the appropriate SQL script (depending on your programming language preference) starting with the name TestFunctionTable\_ using your SQL script tool of choice.

Modify the SET SCHEMA, SET PATH and CHGCURLIB command to reference the library containing the UDTF and supporting service program.

Find and replace all occurrences of DB2SANDBOX or ACME\_DB2 with the name of a library that exists on your system.

Run each statement and verify the results.

Enjoy.