iGetExcel Manual

Programmer's Guide & Reference Manual

Table of Contents

1 Editorial/Introduction

1.1 Editorial

iGetExcel

Programmer's Guide & Reference Manual

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This edition applies to the licensed program *iGetExcel* Version 08.03 and to all subsequent releases and modifications until otherwise indicated in new editions.

Make sure that you are using the latest edition for this product.

Editor:

GOERING iSeries Solutions
Alter Unteröwisheimer Weg 19
76646 Bruchsal
Germany

phone: +49 (0)7251-9895-12
fax: +49 (0)7251-9895-13
e-mail: info@goering.de
web: http://www.goering.us

1.2 Introduction

iGetExcel is a software utility to convert external spreadsheets in the Microsoft Excel format (XLS) into AS/400 i.e. iSeries database files, transferring directly from Integrated File System (IFS) to DB2-Database.

The conversion process follows the settings of the command IGETXLS and are saved to a mapping file.

Conversion may be started interactively or in batch. The interactive method has a fast-path and a detailed method.

There are 2 types of output file:

- Type A is a file with a common design, stores one record or each Excel cell.
- Type B is a existing or generated external file; columns from Excel sheet are mapped to fields of the file; rows of the sheet means records to the file.

2 Installation

2.1 Overview

This Chapter describes how to:

- receive *iGetExcel* and its latest release from the internet.
- install *iGetExcel* on your System.
- license *iGetExcel* on your System.

2.2 Downloading from the Internet

iGetExcel can be downloaded from the internet address: http://www.goering.us . The file contains a compressed AS/400- resp. iSeries-Backup-File with all necessary objects for running iGetExcel.

There are 2 ways to install *iGetExcel*:

a) Installation of the SAVF using the INSTALL AID from Bugbusters.
b) Installation of the SAVF using FTP.

We recommend option a)

Information about the latest *iGetExcel* release level can be found at the internet address http://www.goering.us

2.3 Preparations

1. Extract the (.zip) Download-File

If you do not already have a utility to unzip archived files, we recommend the application Winzip, which can be downloaded from the internet :
http://www.winzip.com
After the extraction, you will have either (separate from the execution) the file IGETXLS.SAV

2. Verify that the FTP-Service on your AS/400 i.e. iSeries is active or start it.

Use the AS/400-command: STRTCPSVR SERVER(*FTP) to start the service

3. Update

If you want an update for your existing *iGetExcel* installation, please rename your current library IGETXLS to IGETXLSOLD.

Use the AS/400-command: RNMOBJ OBJ(IGETXLS) OBJTYPE(*LIB) NEWOBJ(IGETXLSOLD)

The installation program recognizes this library and adopts all the settings from it.

2.4 INSTALL AID Variation

To easily transfer *iGetExcel* to your System AS/400, we also recommend using the tool INSTALL AID from Bugbusters.

It can be downloaded from the internet address http://www.bugbusters.net (free download!).

After the installation on your PC, you have to open the file IGETXLS.SAV. Please fill out the dialog boxes with normal values.

Please proceed to the chapter on Licensing.

2.5 manually transferred by FTP

1. Create the backup-file on your System

Use the name IGETXLS and the AS/400-command:
CRTSAVF FILE (QGPL / IGETXLS) AUT(*ALL)

Open a DOS Window on your PC and change into the subdirectory which contains the ASCII file IGETXLS.SAV (see chapter Installation-Preparations) .

2. Sign on to your System AS/400 resp. iSeries.

*Note that the name "AS400" will be used for the name of your system AS/400 resp. iSeries and the color blue for all responding messages from the FTP.

```
FTP AS400
Connected with AS400
220-QTCP at AS400.FIRMA.DE
220 Connection will close if idle more than 5 minutes.
User (AS400: (none)): USER
331 Enter Password
Password PASSWORD
```

Note that neither the password will be shown nor the cursor will move during entry.

```
230 USER logged on.
```

3. Change into the binary mode

```
FTP> binary
200 Representation type is binary IMAGE.
```

4. Change the naming format

```
FTP> quote site namefmt 1
250 Now using naming format "1".
```

5. Change to the library QGPL of your System AS/400 resp. iSeries

```
FTP> cd_/qsys.lib/qgpl.lib
250 "QSYS.LIB/QGPL.LIB is current library.
```


6. Start the transfer from PC to the AS/400 resp. iSeries

```
FTP> put IGETXLS.SAV  IGETXLS.SAVF (replace)
200 PORT subcommand request successful.
150 Sending file to member IGETXLS.SAV in file  IGETXLS
.SAVF in library QGPL.
```

Note that the transfer time will take a few minutes.

```
250 File transfer completed successfully.
FTP 123456789 Bytes sended in 98.76 seconds 54.321
KB/Sec.
```

7. Terminate the FTP-Session on the System AS/400 resp. iSeries.

```
FTP> quit
221 QUIT subcommand received.
```

8. Close the DOS command entry window.

The transfer to your System AS/400 i.e. iSeries is complete.

9. Create the *iGetExcel*-Objects on the System AS/400 resp. iSeries

using the AS/400-command: RSTLIB SAVLIB (IGETXLS) DEV (*SAVF) SAVF (QGPL/ IGETXLS)

Please proceed to the chapter on Licensing.

2.5.1 Licensing

1. Add the library to your Library Searchlist in your Session

Use AS/400-command: ADDLIBLE IGETXLS

Installation of *iGetExcel* is now complete and, after entering the license-key, ready for execution.

2. Call the licensing and configuration for *iGetExcel*

Use the command: CALL IGXSETUP

3. Note the system specifications of your AS/400.

The *iGetExcel* licensing display will indicate the

a) Serial-No.,
b) Model-No. and
c) Processor-No.

of your AS/400 i.e. iSeries. If you don't already have a license key, please send the system information in an e-mail to: info@goering.de. You will receive your *iGetExcel* license key within 24 hours via e-mail.
The quickest way to get your license code (to receive a license within 30 minutes!) is to input your system specifications on the Download web page at http://www.goering.de. If you fail to enter the system specifications when downloading, you can revisit the page, enter the system information and select the button "Code Only".

4. Enter your *iGetExcel*-license key

Use the command : CALL IGXCODE

Enter the license key and press the Enter key. *iGetExcel* is now ready to run.
Please note that the program tolerates only three repeated attempts of false license keys entries per day.
Further attempts will cause a deactivation of the *iGetExcel* licensing for the rest of each day.

3 The Command IGETXLS

3.1 Command Descriptions

This Chapter describes:

- The possible options in the dialog of the command IGETXLS . The program execution with the batch command IGETXLSQIK is described in a following chapter.
- The conversion limitations of the command IGETXLS
- The error messages of the command IGETXLS

3.2 Conversion Limitations Of The Command IGETXLS

The usage of the command IGETXLS is subject to the following restrictions (conditional on Excel):

The Output-Files (Excel Format) have to be available in Excel Version 2.1 or Excel 97-2003 and be located in the Integrated File System (IFS) of AS/400.

3.3 Error Messages

ESCAPE - Messages

CPF9897

Abnormal program termination. XXX data records were converted. XXX errors were founded.

STATUS - Messages

During the execution of the command, IGETXLS will inform you, after each thousandth data record, about the continuation of the conversion.

4 Excel Sheet Conversion - Variations of Calling

The Excel Sheet Conversion can be executed with one of the following variations of calling:

1. For the Dialog, the following two methods are existing:

- The Detailed method : With the command, IGETXLS is an interactive program (dialog) . During the course of the dialog, the mapping for the conversion will be created and then the conversion starts.

- The Fast Path Method : This method will be started initially like the detailed method. Because the mapping already exists (created with the detailed method in a prior conversion), it is possible to start the conversion at any time (the first input mask of the dialog/ detailed method).

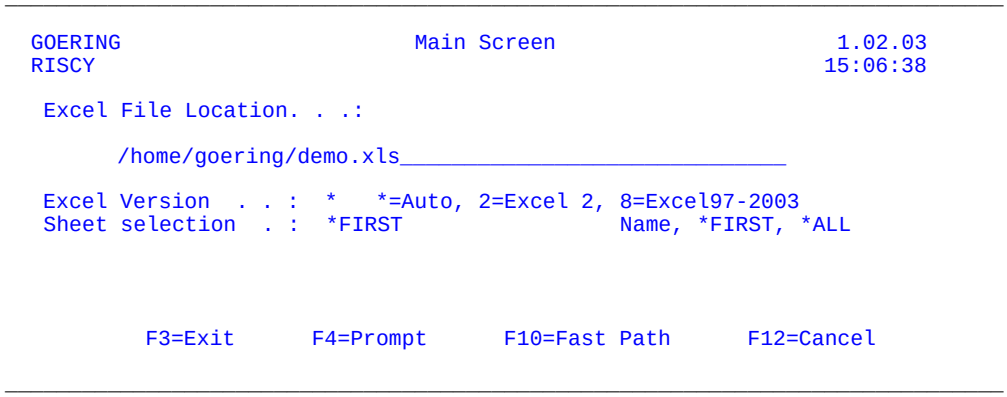
2. For the Batch, you can use the following method:

- For the optional automation of the conversion process, the command IGETXLSQIK is available. This command has the same options as the Fast Path Method.

5 IGETXLS - Detailed Method

5.1 Starting IGETXLS

After launching the program with the command IGETXLS, you have to input the location and the name of the Excel File in the following form.



Using the button **F4**, an easy-to-use explorer is provided for searching the Excel-File.
After pressing **Enter**, the Excel-File will be analyzed and displayed on the screen. If the specified file doesn't exist in the format of the Excel version 2.1, an error message will appear.
With the button **F10**, the Fast Path Modus can be started.
If the location and the name of the file are correct, the file will be displayed in a subfile.

5.2 The Representation Of The Transferred Excel-Table

We will use the example the Excel-Table with the following construction:

Custnr	Custname	Amount	Date serial	Article Number	Check
A00001	ABC Company	1234,66	01.01.2003	A123	4711
A00002	B2B Activity	4567,89	02.01.2003	456	4712
A00003	Customs & More	4444,55	03.01.2003	X789	BAD DATA

1. "page"

```
 DATE:  1.02.03     Subfile Representation Of Excel Sheet    USER:  GOERING
 TIME: 18:16:14                                            SYSTEM:  RISCY
SrNo Total Rows :     4    Total Columns :     6
   1 Custnr Custname      Amount              Date serial         Article N
   2 A00001 ABC Company              1,234.66              37,622 A123
   3 A00002 B2B Activity             4,567.89              37,623
   4 A00003 Customs & more           4,444.55              37,624 X789




                                                                      Bottom
 F3=Exit F10=Save   F19=Shift Left   F20=Shift Right    F12=Cancel
```

2."page"

With the function keys **F19** resp. **F20** scroll right/ left:

```
 DATE:  1.02.03     Subfile Representation Of Excel Sheet    USER:  GOERING
 TIME: 18:16:14                                            SYSTEM:  RISCY
SrNo Total Rows :     4    Total Columns :     6
  1     Article Number       Check
  2 622 A123                              4,711
  3 623                456                4,712
  4 624 X789                BAD DATA



                                                                     Ende
F3=Exit  F10=Save   F19=Shift Left   F20=Shift Right    F12=Cancel
```

Hints to this example:

- Numeric values are formatted with commas.
- Values with decimal places will always be displayed exactly with 2 places after the comma.
- In Excel, date-fields are saved as numeric values in the serial-format. This corresponds with the current count of days started from 01.01.1900.

Function keys in this form:

F19/F20 scroll right/ left
F10 display the Save Options
F3 exit
F12 cancel

5.3 Excel Sheet Conversion - Save Options

There are 2 types of storage:

a) Save as external database

It is possible to save the records both in an existing file and in a newly created file.

- **Existing File:** A request appears whether the records are to be added (*ADD) or if the existing records will be replaced (*REPLACE).
- **New created File**: You have to input the name of a source file and a library.

Example:

```
row   ....+....1....+....2....+....3....+....4....+....5....+....6....+....7..
          CUSTNR  CUSTNAME          AMOUNT   DATE SERIAL  ARTICLE NUMBER  CHECK
        000001 A00001  ABC Company     1.234,66      37.622         A123       4711
        000002 A00002  B2B Activity    4.567,89      37.623         456        4712
        000003 A00003  Customs & more  4.444,55      37.624         X789       BAD D
```

b) Save as a sequential file

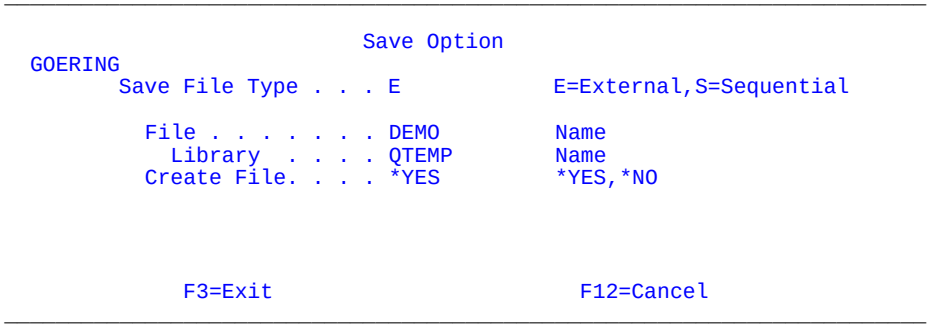
A data record will be generated from each cell. The data record includes the fields "row" and "column".
This format can't be changed. Save as a sequential file is basically used to process data in a succeeding application program.

Example:

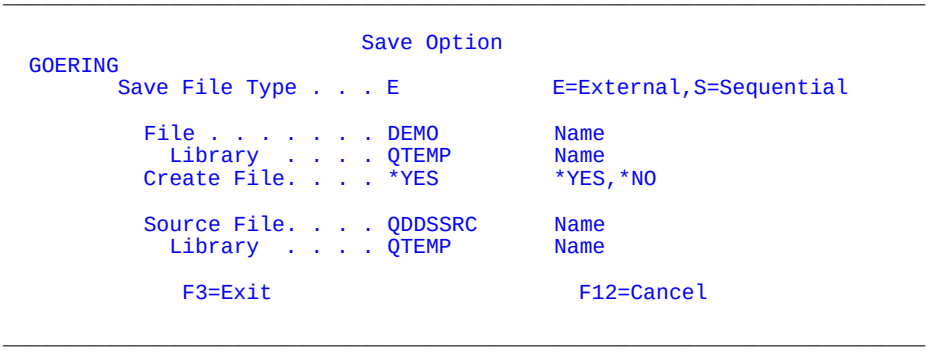
```
row    ....+....1....+....2....+....3....+....4....+....5....+....6....+.
          Row Column Column Width Data Type DEC. Char Value     Num Value
000001      1      1         6        C       0  Custnr              0,00
000002      1      2         8        C       0  Custname            0,00
000003      1      3         6        C       0  Amount              0,00
000004      1      4        11        C       0  Date seria          0,00
000005      1      5        14        C       0  Article Nu          0,00
000006      1      6         5        C       0  Check               0,00
000007      2      1         6        C       0  A00001              0,00
000008      2      2        11        C       0  ABC Compan          0,00
000009      2      3         4        F       2                   1.234,66
000010      2      4         5        N       0                  37.622,00
000011      2      5         4        C       0  A123                0,00
            :
            :
            :
etc.
```


5.4 Save Options - Save As External Database

In order to save the described Excel-data as a table in an external DB2-Database file, you have to input the following fields:



With the parameter "Create File"=*YES it is possible to verify if there is existing a file with the same name.
In that case, a message appears and either you can change the file-name or overwrite the existing file.
If the verification was successful, you have to input the source file in the additional appearing field:



It will automatically suggest the file-name QDDSSRC.

5.5 Definition Of The Data Area

After pressing **ENTER**, the row number will be queried in which the column headings (i.e. the field names) are written and in which row the data starts.

Also, you will need to identify the area specified for the data transfer:

```
                  Specify Rows


   Row of Field Name  . :        1
   Starting Row of Data :        2


   Copy From Row  . . . :        2
   Copy To Row  . . . . : *END




   F3=Exit   F12=Cancel
```

If no headings exist in the table i.e. the headings should be ignored, then input is confirmed with "0". IGetExcel analyzes the data and proposes default values for the following DDS creation:

- The fieldname generator automatically deletes the invalid values and prove the uniqueness of the fieldnames. If the names are duplicated, an index will automatically be appended.
- Also, an identification of the field datatype and the maximum field length will be determined.
- If the field datatypes are mixed, the type will be change to "C" i.e. character.

5.6 Column Definition

In our example, we now see the following screen:

```
GOERING                External File Field Confirmation              1.02.03
RISCY                                                               20:54:13


  External File  DEMO
  External Lib  QTEMP

 Field   Type  Conversion  Input date  Length  Dec  Column Heading   Mismatch
 Name          Type        Format                                   Action
 CUSTNR  C                                6    0    CUSTNR           C       A
 CUSTNA  C                               14    0    CUSTNAME         C       *
 AMOUNT  S                                6    2    AMOUNT           C       *
 DATE_S  S                                5    0    DATE SERIAL      C       :
 ARTICL  C                                4    0    ARTICLE NUMBER   C       :
 CHECK   C                                8    0    CHECK            C       :
                                                                             :

  F3=Exit     F8=Load Mapping    F10=Save Mapping and Save DDS    F11=Save DDS
F12=Cancel
```

Field All fields are default values, which resulted from the previous analysis. The values can also be changed to your own choosing. If the changes are not valid, error messages will be appeared.

Type The following values are valid for datatypes:

- C Character - an alphanumerical field
- F Float - a floating point field
- L Date - a date field
- P Packed - packed field
- S Zoned - zoned numerical field

Conversion Type With the conversion Type, it is possible to select the appropriate data conversion. This is especially useful for the conversion of date fields. Also, you can control in this field the call of an user-exit program.
Valid values for the conversion type are described in the online manual (F1) at the field level.
If a date value should be read and converted from Excel, it is necessary to describe here how the Excel value is defined.
Please note that the date values will be normally saved in the format *SERIAL.

Length Changes of the field length are possible, but it is not allowed to abbreviate the positions before the decimal point. Changes in the

decimal places are allowed and the results will then be rounded.

5.7 Example For A Date Conversion

In our example we will make now the following modifications:

1. The field CUSTNR shall be seven-digit
2. The field CUSTNA shall be 50-digit
3. The field AMOUNT will be amplified to 13/2
4. The field DATE_S shall be an *ISO date field
5. The field CHECK shall be a numerical field with 10 digits, non-numerical values should be ignored.

The outcome of these changes is the following screen:

```
GOERING                External File Field Confirmation               1.02.03
RISCY                                                                21:20:39


  External File  DEMO
    External Lib  QTEMP

 Field   Type  Conversion  Input date  Length  Dec  Column Heading   Mismatch
 Name          Type        Format                                   Action
 CUSTNR  C                                7    0    CUSTNR           C       A
 CUSTNA  C                               50    0    CUSTNAME         C       *
 AMOUNT  S                               13    2    AMOUNT           C       *
 DATISO  L     *ISO        *SERIAL       10    0    ISO DATE         C       :
 ARTICL  C                                4    0    ARTICLE NUMBER   C       :
 CHECK   S                               10    0    CHECK            C       :
                                                                             :


  F3=Exit     F8=Load Mapping    F10=Save Mapping and Save DDS    F11=Save DDS
F12=Cancel
```

For the continuation, 2 options are available:

F10 The rendered definitions will be saved into a "mapping". This make sense for recurrent procedures and is recommended, especially if you are working with the BATCH i.e. Fast Path-method of *iGetExcel*.

F11 Without saving the definitions

Also, you can use the function key F8 to reload a previously defined mapping.

Choosing method 1, the following screen appears:

```
                    Mapping Name Screen


          Enter Mapping Name....    DEMO



    F4=List Mapping     F12=Cancel
```

Both Methods will now proceed the same way....

5.8 Error Handling

During the conversion, some errors i.e. warnings may have occurred because a non-numeric value ("BAD DATA") exists in the column CHECK and can't be assumed:

```
GOERING                          Error Screen                          1.02.03
RISCY                                                                 21:28:18

 Type options, press Enter.
 5=Show error details
  Opt     Excel Column Heading     External Field     Data Type     Mismatch
                                                                    Action
          CHECK                    CHECK              C             I        A
                                                                              *
                                                                              *
                                                                              *
                                                                              *
                                                                              :
                                                                              V


 F3=Exit         F10=Confirm        F12=Cancel
```

Now look at the detail-entry (option 5 in the field Opt) for the following form to appear:

```
GOERING                          Error Details                         1.02.03
RISCY                                                                 21:31:50

 Error Details as per Column# 0006  defined as S length 0010 / 0

 The following could not be converted :
 Row#     Type  Length   Data
 0004     C     0008     BAD DATA                                           A
                                                                           *
                                                                           *
                                                                           *
                                                                           *
                                                                           :
                                                                           V


 F3= Exit          F12=Cancel
```

Go back with function key **F12** and confirm the modified process with function key **F10**.

5.9 Validation Screen

After saving the data, the following screen will be displayed:

```
                              Copy Complete

   The Copy Process from EXCEL Sheet to
   External File was successful.

   Press Enter to continue.
   F10 to present file
```

Now the file is transferred and we can call QuickView with the function key F10 (intern: the query/400 RUNQRY will be called):

```
                            Bericht anzeigen
                                          Breite des Berichts  . :      73
Anfang auf Zeile . . . . . .            Anfang in Spalte . . . . . .
Zeile  ....+....1....+....2....+....3....+....4....+....5....+....6....+....7..
       CUSTNR   CUSTNAME            AMOUNT   ISO DATE    ARTICLE          CHECK
000001 A00001   ABC Company       1.234,66   2003-01-01   A123            4.711
000002 A00002   B2B Activity      4.567,89   2003-01-02   456             4.712
000003 A00003   Customs & more    4.444,55   2003-01-03   X789                0
****** ********  Ende des Berichts  ********
```

6 IGETXLS - The Fast Path Modus

After calling the program with the command IGETXLS, you will have to input the location and the name of the Excel Table (q.v. chapter "IGETXLS -Detailed Method").

After entering the data and pressing ENTER, you will return to the first screen. Here, you can start the Fast Path Method with function key **F10**.
The Fast Path Method is applied if a mapping exists which is already made with the detailed method.

7 IGETXLSQIK

For the optional automation of the conversion process you can use the command IGETXLSQIK.
This command has the same options like the Fast-Path-Dialog.

With this command, you get a powerful command for integration into your own CL-programs

Index

- * -

- A -

- B -

- C -

- D -

- E -

- F -

- I -

- L -

- M -

- N -

- O -

- P -

- Q -

- R -

- S -

- T -

- V -

- W -

- Z -