

```

! RE-STORE "Excel.prg"
!
!*****
! "Excel example program #1" for Tech Soft's MS Office Interface for HTBasic
!
! **** This example should NOT be used with Microsoft Office 2007 ! ****
!
!
! (c) Tech Soft GmbH 1999-2007          http://www.TechSoft.de
! Author:          Sven Henze
! Date:            02-May-2005
! Last change:    11-May-2007
!
!*****
!
!
OPTION BASE 0
INTEGER Verbose=1          ! detailed screen info for every function (0=off)
!
! Load the high level function library if not already loaded
IF NOT INMEM("Dde_lib_start") THEN LOADSUB ALL FROM "htbdde.lib"
!
!
! Now we call the custom SUB where the Office functions will be executed
! If you need more calling parameters either include them in the SUB definition
! or use COM blocks
CALL Dde_excel(Verbose)
!
!
! cleaning up SUB programs (in order to make sure that the most recent versions are loaded every time)
DELSUB Dde_lib_start TO END
!
END
SUB Dde_excel(OPTIONAL INTEGER Verbose)
!
! *****
! *
! * MS Office Interface for HTBasic: Excel Example #1
! *
! * Version : 2.10.18
! * Author  : Sven Henze, Tech Soft GmbH
! * Created : 02-May-2005
! * Updated : 11-May-2007
! *
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! *                               Email: HTB@TechSoft.de
! *                               http://www.techsoft.de/dde.htm
! *
! *****
!
! Description:
! =====
!
! This example writes values into an Excel sheet, computes the SUM (total)
! of some columns and creates a diagram. Finally the document will be saved.
! Excel allows us to send a bunch of data in an array, each field separated
! by CHR$(9) and each row separated by CHR$(10). This makes the entire data
! exchange quite fast.
!
! Please note:
! This program was written and optimized for HTBasic 8.3 and higher.
! If you use an older version of HTBasic it might be necessary to remove
! or change some commands. The example does *not* work with HTBasic 7.x due
! to some problems in the CSUB interface within HTBasic 7.x.
!
!
! define some variables
DIM Doc_template$(1:10) [255], Doc_file$ [255], App_exe$ [255], Topic$ [255], Tmp$ [8192], Htbvers$ [80], Os$ [255], Question$ [1024]
INTEGER Printer, Btn, Sys_chn(1:5), Doc_chn(1:10), Result(1:10), App_quit, Language, Burst, Conv, Dummy
INTEGER Rows, Columns, I, J
DIM Ddecmd$ [255], Info$ [2048], Bookmark$ [128], Doc_password$ [128], Sel$ [255], Struct_file$ [255]
DIM Old_name$ [255], New_name$ [255], Sheetname$ [255], Openopt$ [20]
DIM G$ [5], X$ [5], Hl$ [5], Hx$ [5], Ul$ [5], App$ [255], A$ [1024], Sumsel$ [1024], Dummy$ [1024], Firstcell$ [255], Crlf$ [8]
!
DIM Xl$ [32767], Newfile$ [5]
!
ON ERROR GOSUB Dde_err_handler          ! Global error handler
!
G$=CHR$(19)                            ! character code for inverse printing
X$=CHR$(16)                            ! character code for normal printing
Hl$=CHR$(30)                           ! character code for "highlighted" printing (different color)
Hx$=CHR$(24)                           ! character code for "normal" printing (color)
Ul$=CHR$(22)                           ! character code for underlined printing
Crlf$=CHR$(10)&CHR$(13)
!
INTEGER Verb_
Verb_=0
IF NPAR>=1 THEN
    IF Verbose>0 THEN Verb_=1
END IF
!
INTEGER Printlen
Printlen=FNDde_defprintlen ! define printlen for this session
!
! define colors and other settings
INTEGER Custom_colours
Custom_colours=1                    ! use custom colours (set to 0 if you do not wish to change colour palette)
!
IF NOT FNDde_init_system(Custom_colours) THEN STOP
!
!

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! *** Options for opening documents ***
! You can specify options when opening Microsoft Office documents (does not apply to Corel WordPerfect).
! Currently defined are:
! "RO" - Open the document in ReadOnly mode
!
Openopt$="RO"           ! set this to "" if you want to open the document in normal mode
! Openopt$=""
!
IF Openopt$<>" " THEN Openopt$=":"&Openopt$           ! suffix ":"
!
! define the application
App$="Excel"
! Application quit behaviour
! Values:  0 = Do not close the application ever
!          1 = Close the application after all DDE commands have been sent without any warning
!          2 = Prompt the user to close the application
!          >2 = App_quit=Timeout value (prompt the user to close the application until the given timeout has reached)
!             If timeout occurs the dialog will be closed and the application will not be closed automatically
App_quit=2
!
! some definitions for documents which should be automatically loaded into the application
! according to the selected application (other applications can be easily added)
App_exe$="Excel.exe"
Topic$="Excel"
Doc_password$=""           ! write password for Word documents
!
! If the specified filename starts with a "*" a new file will be created and saved
! Newfile$=""             ! uncomment this if you want to create a new file
!
IF Newfile$="" THEN
    ! If the specified filename starts with a "*" a new file will be created and saved
    Doc_template$(1)=Newfile$&&SYSTEM$( "MSI" )&"\newfile.xls" ! Create new Excel file
ELSE
    Doc_template$(1)=SYSTEM$( "MSI" )&"\template.xls" ! Open existing Excel template
END IF
!
! You can also load a file from a web server (if available)
! Doc_template$(1)="http://www.TechSoft.de/_dde/template.xls"
!
Doc_template$(2)=SYSTEM$( "MSI" )&"\template-output.xls" ! Excel output template
!
IF Verb_>0 THEN CALL Dde_programhead("HTBasic - Microsoft Excel Example #1")
!
CALL Dde_start(App_exe$,Topic$,Sys_chn(1),Language,Verb_) ! start Excel
!
IF NOT Sys_chn(1) THEN
    BEEP
    GOTO Finish
END IF
!
ALPHA PEN 3
IF Verb_>0 THEN OUTPUT CRT;" "&CHR$(20)&"Sending DDE commands to "&Topic$&&X$
ALPHA PEN 1
!
! first open a document in Excel in normal mode
! Doc_chn(1)=FNDde_openfile(Topic$,Sys_chn(1),Doc_template$(1),Result(1),Doc_password$,Verb_)
!
! Optional: Open a document in Excel in readonly mode
Doc_chn(1)=FNDde_openfile(Topic$&Openopt$,Sys_chn(1),Doc_template$(1),Result(1),Doc_password$,Verb_)
!
IF NOT Doc_chn(1) THEN
    BEEP
    GOTO Finish
END IF
!
!
Myown dde cmds: !
!
! =====
!
! ***** Custom DDE programming starts here *****
!
! CALL Dde_driver_info           ! shows info about DDE driver version and date
!
! *** Example #1: Writing values into Excel cells ***
!
Sheetname$="HTBasic Test"           ! Set desired sheet name
! The following function only works if you use the template file. It does not work under MS Office 2007.
Dummy=FNDde_wb_activate(Sys_chn(1),Doc_chn(1),Doc_template$(1),Sheetname$,Verb_) ! activate sheet
!
Rows=6                               ! number of rows to write
Columns=13                           ! number of columns to write
!
ALLOCATE S$(1:Rows,1:Columns)[20] ! allocate the string array S$
ALLOCATE T$(1:Rows,1:Columns)[20] ! allocate the string array T$
!
! Data for Excel table
Excel_data: DATA ,Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec
DATA Sven, 12.1234, 11, 10.043, 9, 8, 7.106, 6, 5.0432, 4, 3.104, 2, 1
DATA Dan, 13, 12.004, 11, 10.05, 9, 8, 7, 6.04, 5, 4.01, 3, 2, 1
DATA Pat, 14, 13.046, 12, 11, 10.1, 9, 8.043, 7, 6.015, 5, 4.1, 3, 0206
DATA Joerg, 15, 14.0418, 13, 12.1052, 11, 10.0832, 9, 8.1, 7, 6.1, 5, 4.03
DATA Martin, 16.031, 15, 14.06128, 13, 12.021, 11, 10.01, 9, 8, 7, 6, 5, 1
!
! now read the data into the array which we want to send to Excel
READ S$(*)

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!
Dde_fprint(" -> Writing array S$(*) with "&H1$&VAL$(Columns*Rows)&Hx$&" values into Excel cells "&U1$&"R2C2"&X$&" ",Print
tlen+2,Verb_)
!
! Now we transmit the string array S$(*) using the burst mode to Excel starting from cell "R1C1"
Conv=1 ! convert HTB numbers to local Excel format where possible
Result(1)=FNDde_starr_2_xls(Sys_chn(1),Doc_chn(1),"R1C1",S$(*),Language,Conv)
CALL Dde_show_status(Result(1),Verb_)
!
!-----
!
! *** Example #2: Create the sum values for each and every column ***
!
! Note: You can send the data at once too using the above method. We have just used the
! "cell by cell" method here in order to show you this different method.
!
Dde_fprint(" -> Writing "&VAL$(Columns-1)&" SUM values into Excel cells ",Printlen-2,Verb_)
FOR J=2 TO Columns
  Sel$="R"&VAL$(Rows+1)&"C"&VAL$(J) ! row and column addresses (English format !)
  Sumsel$="R2C"&VAL$(J)&":"&"R"&VAL$(Rows)&"C"&VAL$(J) ! selection string (e.g. R2C2:R6C2)
  Result(1)=FNDde_poke_xlsum(Sys_chn(1),Doc_chn(1),Sel$,Sumsel$,Language,0) ! write the sum string into Excel cell
NEXT J
CALL Dde_show_status(Result(1),Verb_)
!
!-----
!
! *** Example #3: Write string "Total" into Excel cell ***
!
Dummy=FNDde_pok_xl_cell(Sys_chn(1),Doc_chn(1),"R"&VAL$(Rows+1)&"C1","Total",Language,Verb_)
!
!-----
!
! *** Example #4: Format "Total" line ("Arial", 14 point, red colour) ***
!
Dummy=FNDde_fmtdxls_cell(Doc_chn(1),Language,"R"&VAL$(Rows+1),"Arial",14,1,3,0,0,Verb_)
!
!-----
!
! *** Example #5: Insert and format date into one Excel cell ***
!
! now we write the current date underneath the table and format the date
! we use the function FNDde_transl_date$ in order to translate the date into the local date format (required!)
Dummy=FNDde_pok_xl_cell(Sys_chn(1),Doc_chn(1),"R"&VAL$(Rows+3)&"C1","Date:",Language) ! .. write "Date:" text
write current Date
Dummy=FNDde_pok_xl_cell(Sys_chn(1),Doc_chn(1),"R"&VAL$(Rows+3)&"C2",FNDde_transl_date$(DATE$(TIMEDATE)),Language) ! ..
Dummy=FNDde_format_date(Sys_chn(1),Doc_chn(1),"R"&VAL$(Rows+3)&"C2","DD.MM.YYYY",Language,Verb_) ! format date cell
!
! The following line might be used to format an Excel cell
! containing a date with the default windows date format (short format)
! Dummy=FNDde_format_date(Sys_chn(1),Doc_chn(1),"R"&VAL$(Rows+3)&"C2","",Language,Verb_) ! format date cell
!-----
!
! *** Example #6: Rename current sheet *** (does not work under MS Office 2007 and does not work under Windows Vista)
!
Old_name$=Sheetname$
New_name$="HTBasic sheet 1"
Dummy=FNDde_ren_xlsheet(Sys_chn(1),Doc_chn(1),Old_name$,New_name$,Verb_)
!
CALL Dde_focus2basic ! bring HTBasic window back to front
!
!-----
!
! *** Example #7: Read Excel cells ***
!
! First we read only one Excel cell (regardless if this is a number or a string)
RANDOMIZE
Sel$="R"&VAL$(INT(RND*Rows+1))&"C"&VAL$(INT(RND*Columns+1)) ! select random cell from our written cell range
HTB format
Dummy$=FNDde_readxl_cell$(Doc_chn(1),Sel$,Result(1),Language,1,Verb_) ! read the cell, convert Excel number format into
how result
IF Verb_ THEN PRINT " -> Content of Excel cell "&U1$&FNDde_fmt_xls_rc$(Language,Sel$)&X$&": ";H1$;Dummy$;Hx$&"!" ! s
!
! now read the date from cell R9C2;
! Do not convert the returned value into HTBasic number since it contains a date !
Sel$="R9C2" ! select random cell from our written cell range
t into HTB format !
Dummy$=FNDde_readxl_cell$(Doc_chn(1),Sel$,Result(1),Language,0,Verb_) ! read the cell, do not convert Excel number forma
how result
IF Verb_ THEN PRINT " -> Content of Excel cell "&U1$&FNDde_fmt_xls_rc$(Language,Sel$)&X$&": ";H1$;Dummy$;Hx$&"!" ! s
!
! No we read out the numbers from the Excel table into the string array T$(*)
INTEGER X1,Y1,X2,Y2
X1=BASE(T$,1)
Y1=BASE(T$,2)
X2=Rows
Y2=Columns
Firstcell$="R1C1"
MAT T$=""
Printlen+2,Verb_)
Dde_fprint(" -> Reading "&H1$&VAL$(Columns*Rows)&Hx$&" values into array T$(*) from Excel cells "&U1$&Firstcell$&X$&" ",
Conv=1 ! convert Excel numbers to HTB format where possible
Dummy=FNDde_xls_2_starr(Doc_chn(1),Firstcell$,T$(*),Language,Conv,X1,Y1,X2,Y2,Verb_)
CALL Dde_show_status(Result(1),Verb_)
!
! now show the content of the array
PRINT
PRINT " ";U1$;"Values read from Excel into array T$(*)";X$
PRINT T$(*),
PRINT
PRINT
!
DEALLOCATE T$(*)
!
!-----
!
! *** Example #8: Create a new diagram based on the transmitted data
!
! Here is how it works:

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!
! 1. Select desired Excel cells
! 2. Create diagram
! 3. Specify type of diagram (this may crash MS Office 2007 !!)
! 4. Specify diagram title (this may crash MS Office 2007 !!)
!
Sel$="R1C1:R"&VAL$(Rows)&"C"&VAL$(Columns) ! selection string
Dummy=FNDde_selxls_cell(Doc_chn(1),Sel$,Language,Verb_) ! select cells
!
Dde_fprint(" -> Creating new diagram ",Printlen-2,Verb_) ! show informational text
CALL Ddeexecute(Doc_chn(1),"[WORKBOOK.INSERT(2)]",Result(1)) ! create new diagram
CALL Dde_show_status(Result(1),Verb_) ! show result of function
!
CALL Ddeexecute(Doc_chn(1),"[SELECT("Chart")]",Result(1)) ! select entire diagram
!
! specify type of diagram: entire diagram, group 1, 3D type, 3D column
CALL Ddeexecute(Doc_chn(1),"[FORMAT.Charttype(3,1,2,3)]",Result(1))
!
CALL Ddeexecute(Doc_chn(1),"[Insert.Title(1)][Select("Title")]",Result(1)) ! create and select diagram title
!
! edit diagram title
Tmp$=TRIM$(SYSTEMS("VERSION:HTB"))
CALL Ddeexecute(Doc_chn(1),"[Formula("Created by HTBasic for "&Tmp$&" and Tech Soft's MS Office Interface")]",Result(1))
!
! now apply a border and shadow to the title text
CALL Ddeexecute(Doc_chn(1),"[PATTERNS(1,,,1,,,,,1)]",Result(1))
!
-----
!
! *** Example #9: Save the file ***
!
IF Newfile$="" THEN
! if the file was newly created simply save it under the given name
Dummy=FNDde_savefile(Topic$,Doc_chn(1),Doc_template$(1),Result(1),2,"",Verb_)
ELSE
! if the file was created from a template save it under a new name
Dummy=FNDde_savefile(Topic$,Doc_chn(1),Doc_template$(2),Result(1),0,"",Verb_)
END IF
! Dummy return values: 0=save was successful, 1=save was not successful or interrupted by user
!
-----
!
! ***** Custom DDE programming ends here *****
!
=====
CALL Dde_focus2basic ! bring HTBasic window back to front
!
Dde_enter_kbd(" Press <RETURN> to close the document(s).")
!
! Close file and ask if file should be saved
Doc_chn(1)=FNDde_closefile(Topic$,Sys_chn(1),Doc_template$(1),Result(1))
!
! Close file, do not ask for save
Dummy=FNDde_closefile(Topic$,Sys_chn(1),Doc_template$(1+(1-Dummy)),Result(1),1,Verb_)
!
Finish:
! terminate all DDE connections and resources
! if variable "App_quit" is set to 1 or greater the application will be closed
CALL Dde_quit(Sys_chn(1),Doc_chn(1),Result(1),App_quit,Topic$,Verb_,1,1)
!
ALPHA PEN 4
DISP " Program finished."
ALPHA PEN 1
!
SUBEXIT
!
! Global error handler
Dde_err_handler: !
BEEP
Dde_enter_kbd("**** Global Error Handler ****"&CrLf$&CrLf$&ERRM$)
ERROR RETURN
!
SUBEND

```