










4D Pack

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Preface

 4D_Pack Introduction

4D_Pack Introduction

The 4D_Pack plug-in provides 4D developers with additional routines.

4D_Pack command names have the "AP" prefix in order to avoid any confusion with 4D commands. They also use the uppercase/lowercase convention depending on whether they are commands or functions.

Compatibility Note (4D Pack v16): 4D Pack routines have been progressively integrated into 4D itself, or removed gradually as they become obsolete or unnecessary. Today, the 4D Pack plug-in contains only a very small number of routines and will no longer evolve. Starting with version 16 of 4D Pack, all the routines of this plug-in are deprecated and their use is no longer recommended.

Installation

You install the 4D_Pack plug-in just like any 4D plug-in: you must put it in the **Plugins** folder located either next to the executable application or next to the structure file of the database. For more information, please refer to the [Installing plugins or components](#) section in the *Design Reference* manual.

The 4D Pack plug-in *bundle* contains both 32-bit and 64-bit versions of the product.

Commands removed from 4D Pack

Due to changes in technology and continuous integration of new features 4D, 4D Pack commands have been removed from successive versions. This section lists the commands that were removed as well as their recommended alternatives.

Commands removed from 4D Pack v16

Commands removed

`_o_AP Save BMP 8 bits`
`_o_AP FCLOSE`, `_o_AP fopen`, `_o_AP FPRINT`, `_o_AP fread`
`_o_AP Get file MD5 digest`
`_o_AP ShellExecute`

Replaced with (if applicable)

4D commands of the "[Pictures](#)" theme.
Obsolete features
[Generate digest](#)
[LAUNCH EXTERNAL PROCESS](#)

Commands removed from 4D Pack v14

<i>Command removed</i>	<i>Replaced with (if applicable)</i>
AP AVAILABLE MEMORY	GET MEMORY STATISTICS
AP CLOSE HELP, AP HELP	
INDEX, AP HELP ON HELP, AP HELP ON KEY	<i>Obsolete commands</i> - The Windows Help application (WinHlp32.exe) is no longer integrated in Windows starting with Windows Vista.
AP Create method, AP Modify method	<pre>METHOD SET CODE ("myMeth";vCode;*) METHOD SET ATTRIBUTE ("myMeth";vInvisible;2;v4DAction;3;vWebService;4;vWSDL;5;vExported;7;vSQL;8;vRemote;1024;vFolderName;*)</pre>
AP Does method exist	<pre>METHOD GET NAMES (\$arrNames;"myMeth") \$exists:=(Size of array (\$arrNames)>0) // -> True if method exists</pre>
AP Get picture type	Commands of the " Pictures " theme
AP Get templates	<i>Obsolete command</i>
_AP External clock, AP SET CLOCK	TimePicker Widget (4D v14)
AP Rect Dragger	SET DRAG ICON
AP Timestamp to GMT	<pre>\$laDate:=String (Current date;ISO Date GMT;Current time) // returns, e.g. "2013-05-06T12:19:23Z"</pre>
AP GET PARAM, AP SET PARAM	<i>Obsolete commands</i> - Secondary parameters managed by these commands are no longer maintained.

Commands removed from 4D Pack v11

AP PICT DRAGGER -> Use the integrated drag and drop functions of 4D (MouseDown, MouseX and MouseY **System Variables** in the case of "click" type events)

AP PICT UPDATER and *%AP Pict displayer* -> Use a picture field

AP Read Picture BLOB -> Use **BLOB TO PICTURE**

AP Read Picture File -> Use **READ PICTURE FILE**

AP Save GIF -> Use **CONVERT PICTURE** + **WRITE PICTURE FILE**

AP SET PICT MODE -> Use **SET FORMAT**

AP Select document -> Use **Select document**

AP Set palette -> Use **Select RGB Color**

AP Sublaunch -> Use **LAUNCH EXTERNAL PROCESS**

AP PrintDefault -> Use *AP BLOB to print settings* + *AP Print settings to BLOB*

AP Text to PrintRec -> Use *AP BLOB to print settings* + *AP Print settings to BLOB*

AP PrintRec to text -> Use *AP BLOB to print settings* + *AP Print settings to BLOB*

AP PrValidate -> Use *AP BLOB to print settings* + *AP Print settings to BLOB*

AP Toolbar installed -> Use **Tool bar height** (returns 0 if toolbar is hidden)

AP SET WEB FILTERS -> Use **SET DATABASE PARAMETER** and **Get database parameter**

AP ShellExecute (Mac OS) --> Use **LAUNCH EXTERNAL PROCESS**

AP Add table and fields -> Use 4D SQL engine

AP Create relation -> No alternative solution currently

4D_Pack : Picture Files

 *_o_AP Is Picture Deprecated*

🔧 **_o_AP Is Picture Deprecated**

`_o_AP Is Picture Deprecated (ptrPict) -> Function result`

Parameter	Type		Description
ptrPict	Pointer	→	Pointer to picture field or variable to test
Function result	Longint	↩	0 = valid format, 1 = obsolete format (PICT)

Compatibility note

Starting with version 16, 4D Pack commands are obsolete and their use in 4D databases is not recommended. These commands will be removed in future versions of 4D.

Description

The **_o_AP Is Picture Deprecated** command returns 1 when the picture referenced by the *ptrPict* parameter contains the (obsolete) PICT format and 0 otherwise. A picture is considered as obsolete when it is in the PICT format or when it contains the PICT format (pictures inserted through drag-and-drop may include several formats).

In *ptrPict*, pass a pointer to a 4D picture field or variable, or to an element in a 4D picture array that you want to test.

This command is intended to prepare the development of your applications for the next major versions of 4D. In fact, the Mac "PICT" format was declared obsolete by Apple several Mac OS versions ago ([see the description of the PICT format on Wikipedia](#)). It was kept in 4D for compatibility's sake but it is no longer supported beginning with 4D v14. To prepare for the migration of your applications, you can start using this command now so as to detect all the PICT pictures in your database and convert them to a native format (such as PNG) using the **CONVERT PICTURE** command. Note that once converted to a format, pictures only contain this new format.

Note: Deleting the PICT format requires prior analysis in the case of pictures intended for printing. Since PICT was a vector format, it may be used particularly under Windows for printing, when present. So in this context, it is preferable to convert PICT pictures to another vector format, such as EMF for instance.

Example


You want to test and convert all the pictures of the library if necessary:


```
C_LONGINT ($vPict; $vPictCount; $vPictRef; $vTotal)
C_TEXT ($vPictName)
C_POINTER ($vPointer)
C_PICTURE ($vpPict)
ARRAY TEXT ($arrPictNames; 0)
ARRAY LONGINT ($arrPictRefs; 0)

$vTotal:=0
PICTURE LIBRARY LIST ($arrPictRefs; $arrPictNames)
$vPictCount:=Size of array ($arrPictRefs)
If ($vPictCount>0)
  For ($vPict; 1; $vPictCount) // for each picture
    $vPictRef:=$arrPictRefs {$vPict}
    $vPictName:=$arrPictNames {$vPict}
    GET PICTURE FROM LIBRARY ($arrPictRefs {$vPict}; $vpPict)
    $vPointer:=>$vpPict // pass a pointer
    $isObs:=$_o_AP Is Picture Deprecated ($vPointer)
    If ($isObs=1) // if format is obsolete
      CONVERT PICTURE ($vPointer-> ".PNG") // conversion to png
    // and saving in library
      SET PICTURE TO LIBRARY ($vPointer-> $vPictRef; $vPictName)
    $vTotal:=$vTotal+1
  End if
```

```
End for
  ALERT(String($vTotal)+" picture(s) out of "+String($vPictCount)+" were converted to png.")
Else
  ALERT("The picture library is empty.")
End if
```


4D_Pack : Printing

 *_o_AP BLOB to print settings*

 *_o_AP Print settings to BLOB*

_o_AP BLOB to print settings

`_o_AP BLOB to print settings (printSettings ; paramType) -> Function result`

Parameter	Type	Description
printSettings	BLOB	→ BLOB containing the print settings
paramType	Longint	→ 0 = Layout and print, 1 = Print
Function result	Longint	↻ 1 = Operation successful, 0 = No current printer, -1 = Incorrect parameters

Compatibility note

This command is obsolete starting with 4D v16 and will be removed in the future. It can be replaced advantageously by the integrated 4D **BLOB to print settings** command.

_o_AP Print settings to BLOB

_o_AP Print settings to BLOB (printSettings) -> Function result

Parameter	Type		Description
printSettings	BLOB	→	BLOB to store the print settings
Function result	Longint	↩	Error code: 1 = Operation successful 0 = No current printer

Compatibility note

This command is obsolete starting with 4D v16 and will be removed in the future. It can be replaced advantageously by the integrated 4D **Print settings to BLOB** command.

4D_Pack : User Interface

 *_o_AP FULL SCREEN*

 *_o_AP NORMAL SCREEN*

_o_AP FULL SCREEN

_o_AP FULL SCREEN

Does not require any parameters

Description

The **_o_AP FULL SCREEN** command enables you to hide the menu bar and the title bar of the 4D application window and to set this window to full-screen size.

This command only works on Windows.

_o_AP NORMAL SCREEN

_o_AP NORMAL SCREEN

Does not require any parameters

Compatibility note

Starting with version 16, 4D Pack commands are obsolete and their use in 4D databases is not recommended. These commands will be removed in future versions of 4D.

Description

The **_o_AP NORMAL SCREEN** command enables you to resize a menu bar and a title bar that were previously hidden by the **OPEN PRINTING JOB** command.

This command only works in Windows.

4D_Pack : Utilities

 *_o_AP Get field infos*

 *_o_AP Get table info*

 *_o_AP Get tips state*

 *_o_AP SET TIPS STATE*

_o_AP Get field infos

`_o_AP Get field infos (numTable ; numField ; relTable ; relFld ; props ; choiceList) -> Function result`

Parameter	Type		Description
numTable	Integer	→	Table number
numField	Integer	→	Field number
relTable	Integer	←	Related table
relFld	Integer	←	Related field
props	Longint	←	Field properties
choiceList	String	←	Choice list
Function result	Integer	↻	Error code

Compatibility note

Starting with version 16, 4D Pack commands are obsolete and their use in 4D databases is not recommended. These commands will be removed in future versions of 4D.

Description

_o_AP Get field infos returns specific information about a field.

Given the table number and field number, the command returns the linked table and the linked field number, respectively.

If there is no relation with the given field, *relTable* and *relFld* are set to 0.

The 16 bits of *props* are meaningful. Each bit can be read via bits operators of 4D language.

Bit number:	Is set to 1 if:	Ignored if field type is
15	Indexed	Text, Picture, Subtable or Blob
14	Indexed unique	Text, Picture or Subtable or Blob or if bit 15 is set to 0
13	Mandatory	Subtable
12	Choice list	Picture, Subtable or Blob
11	Modifiable	Subtable
10	Enterable	Subtable
8	Invisible	
6	N to 1 relation	Text, Picture, Subtable or Blob
5	1 to N relation	Text, Picture, Subtable or Blob
2 and 1	Automatic 1 to N relation whose deletion control is: 00 No deletion control 01 No assignment of related records 10 Deletion of related records 11 Deletion of related records not allowed	
0	Automatic N to 1 relation with automatic assignment	Text, Picture, Subtable, Blob, or if bit 5 not set

_o_AP Get table info

`_o_AP Get table info (numTable ; invisible ; destruct) -> Function result`

Parameter	Type		Description
numTable	Integer	→	Table number
invisible	Integer	←	1, if the table is invisible 0, if the table is visible
destruct	Integer	←	1, for physical deletion of the records 0, for logical deletion of the records
Function result	Integer	↻	Error code

Compatibility note

Starting with version 16, 4D Pack commands are obsolete and their use in 4D databases is not recommended. These commands will be removed in future versions of 4D.

Description


_o_AP Get table info returns information on 4D tables.

Given the table number, the *invisible* parameter is set to 1 if the table is declared as invisible in Design mode, otherwise it is set 0.

The *destruct* variable is set to 1 for physical deletion of the records, or 0 for logical deletion. The physical deletion of the records is slower than the logical one but it prevents the record from reappearing in case of a "recover by tags" operation.

_o_AP Get tips state

_o_AP Get tips state -> Function result

Parameter	Type		Description
Function result	Longint		Tip display status

Compatibility note


Starting with version 16, 4D Pack commands are obsolete and their use in 4D databases is not recommended. These commands will be removed in future versions of 4D.

Description

_o_AP Get tips state returns 1 if tips are displayed; otherwise it returns 0.

_o_AP SET TIPS STATE

`_o_AP SET TIPS STATE (status)`

Parameter	Type	Description
status	Integer 	Tips status to be set 0 = Do not display tips 1 = Display tips

Compatibility note










Starting with version 16, 4D Pack commands are obsolete and their use in 4D databases is not recommended. These commands will be removed in future versions of 4D.

Description

The **_o_AP SET TIPS STATE** command allows to display or not display tips.

4D Pack - Obsolete commands

16.0

-  *_o_AP BLOB to print settings*
-  *_o_AP FULL SCREEN*
-  *_o_AP Get field infos*
-  *_o_AP Get table info*
-  *_o_AP Get tips state*
-  *_o_AP Is Picture Deprecated*
-  *_o_AP NORMAL SCREEN*
-  *_o_AP Print settings to BLOB*
-  *_o_AP SET TIPS STATE*