Issuing Operating System Commands from within a Natural Program

The Natural user exit `SHCMD` can be used to issue an operating system command from within a Natural program.

This chapter covers the following topics:

- Syntax

- Parameters

- Parameter Options

- Return Codes

- Examples

Syntax

CALL 'SHCMD' '*command*' ['*option*']

Parameters

`command`	`command` is to be executed by the operating system. To execute commands (such as `DIR` for directory or `DEL` for delete) you have to specify the system command interpreter as well. For more information, see *Examples* below.
`option`	`option` describes how the command should be executed. This parameter is optional. The following options are available: `ASYNCH` `NOSCREENIO` `SYNCH` (default) See *Parameter Options* below.

Parameter Options

The following parameter options are available:

Option	Description
ASYNCH	Natural does not wait until the command is completely executed. This kind of processing is named asynchronous processing.
NOSCREENIO	This option is used to hide the output generated by the command. The hidden output is redirected to the null device.
SYNCH	Natural waits until the command is completed. This kind of processing is named synchronous processing and is set by default.

Note:
The options ASYNCH and SYNCH may be not set at the same time.

Return Codes

The following return code values are available:

Return Code	Description
0	Command successfully executed.
4	Illegal SHCMD parameter specified.
All other codes	Operating-system-dependent error code.

Examples

Execute operating system command DIR to view a directory:

```
CALL 'SHCMD''CMD.EXE /C DIR'
```

Retrieve the return code by using the Natural function RET:

```
RESET rc (I4)
CALL 'SHCMD''CMD.EXE /C DIR'
rc = RET( 'SHCMD' )                   /* retrieve return code
IF rc <> 0 THEN                       /* in case of an error
DISPLAY "Error occurred during SHCMD" /* display an error message
```

Execute a command which includes blanks within the command by enclosing the command with quotation marks.

The following example executes Microsoft Excel.

```
RESET #cmd (A253)
MOVE '"C:\Program Files\Microsoft Office\Office\EXCEL.EXE"' to #cmd
CALL "SHCMD" #cmd "ASYNCH"
```

In this case, parameter TQ (translate quotation marks) has to be OFF, otherwise the quotation marks have been removed.

To be independent of the TQ parameter, use the hexadecimal ASCII code of quotation marks (H'22') and append it at the beginning and the end of the command. The following example demonstrates this:

```
RESET #cmd (A253)
MOVE H'22' - "C:\Program Files\Microsoft Office\Office\EXCEL.EXE" - H'22' to #cmd
CALL "SHCMD" #cmd "ASYNCH"
```