



DosExit

This call is issued when a thread completes executing. The current thread or process ends.

Syntax

DosExit (ActionCode, ResultCode)

Parameters

- ActionCode (USHORT) - input : Terminates the process and all its threads.

| Value | Definition |
|-------|---------------------------------|
| 0 | The current thread ends. |
| 1 | All threads in the process end. |

- ResultCode (USHORT) - input : Program's completion code. It is passed to any thread that issues DosCwait for this process.

Remarks

DosExit allows a thread to terminate itself or be terminated by another thread in its process. If ActionCode=0 and the specified thread is the last thread executing in the process, or if ActionCode=1, the process terminates.

The system can start threads on behalf of an application. Thus, if the intent of a DosExit call is to terminate the process, ActionCode=1 should be specified to terminate all the threads belonging to the process.

Do not terminate thread 1 without terminating the process. Thread 1 is the initial thread of execution, not a thread started by a DosCreateThread request. When thread 1 ends, any monitors or signal processing routines set for this process also end. To avoid unpredictable results, DosExit should be specified with ActionCode=1 to ensure the process ends.

When a process is terminating, all but one thread is terminated and that thread executes routines whose addresses have been specified with DosExitList. After resources have been cleaned up by the exit list routines, this thread and all other resources owned by the process are released.

Family API Considerations

Some options operate differently in the DOS mode than in the OS/2 mode. Therefore, the following restrictions apply to DosExit when coding for the DOS mode:

- There is no thread support in DOS 3.3; therefore DosExit exits the currently executing program.
- If ActionCode = 0 this option is ignored. It is equivalent to an ActionCode = 1.

Example Code

C Binding

```
#define INCL_DOSPROCESS

VOID    DosExit(ActionCode, ResultCode);
USHORT  ActionCode;    /* Indicates end thread or process */
USHORT  ResultCode;   /* Result Code to save for DosCwait */
```

In this example, the main routine starts up another program, simple.exe, and then expects a return code of 3 to be returned. Simple.exe sets the return code with DosExit.

```
#define INCL_DOSPROCESS

#define START_PROGRAM "simple.exe"
#define RETURN_OK 3

CHAR      LoadError[100];
PSZ       Args;
PSZ       Envs;
RESULTCODES ReturnCodes;
USHORT    rc;

    if(!DosExecPgm(LoadError,          /* Object name buffer */
                  sizeof(LoadError),  /* Length of object name buffer */
/*
                  EXEC_SYNC,          /* Asynchronous/Trace flags */
                  Args,              /* Argument string */
                  Envs,              /* Environment string */
                  &ReturnCodes,     /* Termination codes */
                  START_PROGRAM))    /* Program file name */
    if (ReturnCodes.codeResult == RETURN_OK) /* Check result code */
        printf("things are ok..");
    else
        printf("something is wrong...");
```

-----simple.exe-----

```
#define INCL_DOSPROCESS

#define RETURN_CODE 3

main( )
{
    printf("Hello!\n");
```

```

    DosExit(EXIT_THREAD,          /* End thread/process */
            RETURN_CODE);        /* Result code */
}

```

The following example shows how to suspend and resume execution of a thread within a process. The main thread creates Thread2 and allows it to begin executing. Thread2 iterates through a loop that prints a line and then sleeps, relinquishing its time slice to the main thread. After one iteration by Thread2, the main thread suspends Thread2 and then resumes it. Subsequently, Thread2 completes the remaining three iterations.

```

#define INCL_DOSPROCESS
#include <os2.h>

#define SEGSIZE      4000  /* Number of bytes requested in segment */
#define ALLOCFLAGS   0     /* Segment allocation flags - no sharing */
#define SLEEPSHORT   5L   /* Sleep interval - 5 milliseconds */
#define SLEEPLONG    75L  /* Sleep interval - 75 milliseconds */
#define RETURN_CODE  0     /* Return code for DosExit() */

VOID APIENTRY Thread2()
{
    USHORT      i;

    /* Loop with four iterations */
    for(i=1; i<5; i++)
    {
        printf("In Thread2, i is now %d\n", i);

        /* Sleep to relinquish time slice to main thread */
        DosSleep(SLEEPSHORT);          /* Sleep interval */
    }
    DosExit(EXIT_THREAD,          /* Action code - end a thread */
            RETURN_CODE);        /* Return code */
}

main()
{
    TID      ThreadID;          /* Thread identification */
    SEL      ThreadStackSel;    /* Segment selector for thread stack */
    PBYTE    StackEnd;         /* Ptr. to end of thread stack */
    USHORT   rc;

    /** Allocate segment for thread stack; make pointer to end of stack. **/
    /** We must allocate a segment in order to preserve segment **/
    /** protection for the thread. **/

    rc = DosAllocSeg(SEGSIZE,          /* Number of bytes requested */
                    &ThreadStackSel, /* Segment selector (returned) */
                    ALLOCFLAGS);      /* Allocation flags - no sharing */
    StackEnd = MAKEP(ThreadStackSel, SEGSIZE-1);
}

```

```
/** Start Thread2 */
if(!(rc=DosCreateThread((PFNTHREAD) Thread2, /* Thread address */
                        &ThreadID, /* Thread ID (returned) */
                        StackEnd)) /* End of thread stack */
    printf("Thread2 created.\n");

/* Sleep to relinquish time slice to Thread2 */
if(!(DosSleep(SLEEPSHORT)) /* Sleep interval */
    printf("Slept a little to let Thread2 execute.\n");

/***** Suspend Thread2, do some work, then resume Thread2 *****/
if(!(rc=DosSuspendThread(ThreadID)) /* Thread ID */
    printf("Thread2 SUSPENDED.\n");
printf("Perform work that will not be interrupted by Thread2.\n");
if(!(rc=DosResumeThread(ThreadID)) /* Thread ID */
    printf("Thread2 RESUMED.\n");
printf("Now we may be interrupted by Thread2.\n");

/* Sleep to allow Thread2 to complete */
DosSleep(SLEEPLONG); /* Sleep interval */
}
```

MASM Binding

```
EXTRN DosExit:FAR
INCL_DOSPROCESS EQU 1

PUSH WORD ActionCode ;Indicates end thread or process
PUSH WORD ResultCode ;Result Code to save for DosCwait
CALL DosExit
```

Note

This text based on [http://www.edm2.com/index.php/DosExit_\(FAPi\)](http://www.edm2.com/index.php/DosExit_(FAPi))

| Family API | | |
|------------|-----------------|--|
| DOS | Process Manager | DosBeep DosExit DosSleep DosExecPgm |
| | File Manager | DosChDir DosChgFilePtr DosClose DosDelete DosDupHandle DosMkDir DosMove DosQCurDir DosQCurDisk DosSetFileMode DosOpen DosQFileInfo DosRead DosQFileMode DosQFSInfo DosQVerify DosRmdir DosSelectDisk DosFindClose DosFindFirst DosFindNext DosSetFileInfo DosSetVerify DosWrite DosFileLocks DosSetFHandState DosNewSize DosBufReset DosQFHandState DosSetFSinfo DosShutdown |
| | Memory Manager | DosFreeSeg DosSubAlloc DosSubFree DosSubSet DosAllocHuge DosAllocSeg DosReallocHuge DosReallocSeg DosGetHugeShift DosCreateCSAlias |
| | NLS | DosCaseMap DosGetCtryInfo DosGetDBCSEv DosSetCtryCode DosGetCollate DosGetMessage DosInsMessage DosPutMessage |
| | Date and Time | DosSetDateTime DosGetDateTime |
| | Devices | DosDevConfig DosDevIOct1 DosDevIOct2 |
| | Signals | DosHoldSignal DosSetSigHandler |
| | Misc | BadDynLink DosGetEnv DosGetMachineMode DosGetVersion DosError DosErrClass DosSetVec |
| KBD | | KbdCharIn KbdFlushBuffer KbdGetStatus KbdSetStatus KbdStringIn KbdPeek |
| VIO | | VioGetBuf VioGetConfig VioGetCurPos VioGetCurType VioGetPhysBuf VioReadCellStr VioReadCharStr VioScrollUp VioScrollDn VioScrollLf VioScrollRt VioScrUnLock VioSetCurPos VioSetCurType VioSetMode VioGetMode VioShowBuf VioWrtCellStr VioWrtCharStr VioWrtCharStrAtt VioWrtNAttr VioWrtNCell VioWrtNChar VioWrtTTY VioScrLock VioPopUp |
| Tools | | BIND |
| Modules | | DOSCALLS.DLL VIOCALLS.DLL KBDCALLS.DLL MSG.DLL |
| Libraries | | API.LIB OS2386.LIB FAPI.LIB DOSCALLS.LIB SUBCALLS.LIB |

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