



This is part of **Family API** which allow to create dual-os version of program runs under OS/2 and DOS

**Note:** This is legacy API call. It is recommended to use 32-bit equivalent

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## DosFileLocks

This call locks and unlocks a range in an opened file.

### Syntax

```
DosFileLocks (FileHandle, UnLockRange, LockRange)
```

### Parameters

- FileHandle ([HFILE](#)) - input : File handle.
- UnLockRange ([PLONG](#)) - input : Address of the structure containing the offset and length of a range to be unlocked. A doubleword of zero indicates that unlocking is not required.
- FileOffset ([ULONG](#)) : The offset to the beginning of the range to be unlocked.
- RangeLength ([ULONG](#)) : The length of the range to be unlocked.
- LockRange ([PLONG](#)) - input : Address of the structure containing the offset and length of a range to be locked. A doubleword of zero indicates that locking is not required.
- FileOffset ([ULONG](#)) : The offset to the beginning of the range to be locked.
- RangeLength ([ULONG](#)) : The length of the range to be locked.

### Return Code

rc ([USHORT](#)) - return

Return code descriptions are:

- 0 NO\_ERROR
- 6 ERROR\_INVALID\_HANDLE
- 33 ERROR\_LOCK\_VIOLATION
- 36 ERROR\_SHARING\_BUFFER\_EXCEEDED

## Remarks

DosFileLocks provides a mechanism that allows a process to lock a region in a file for read/write access. The time a region is locked should be short.

Instead of denying another process read/write access to the entire file by means of access and sharing modes specified with [DosOpen](#) or [DosOpen2](#) requests, a process attempts to lock only the range needed for read/write access and examines the error code returned.

A range to be locked must first be cleared of any locked subranges or overlapping ranges. The locked region can be located anywhere in the file, and locking beyond end-of-file is not considered an error.

Once a lock is successful, read/write access by another process to the specified range is denied until the range is unlocked. If both unlocking and locking are specified by a DosFileLocks request, the unlocking operation is performed first. After unlocking is completed, locking is done.

Duplicating the handle duplicates access to any locked regions; however, access to locked regions is not duplicated across the [DosExecPgm](#) call.

If a file is closed (either by a [DosClose](#) request or by a process terminating) and locks are still in effect, the locks are released in no defined order.

## Family API Considerations

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

- If Block = 1 is specified, an “invalid range lock list” or “invalid unlock list” error is returned.
- NewLockIDList is not supported.

## Example Code

### C Binding

```
#define INCL_DOSFILEMGR

USHORT rc = DosFileLocks(FileHandle, UnLockRange, LockRange);

HFILE      FileHandle;    /* File handle */
PLONG      UnLockRange;   /* UnLock range */
PLONG      LockRange;     /* Lock range */

USHORT     rc;            /* return code */
```

### Example

This example opens a file, writes some data to it, locks a block of the data, and then unlocks it.

```
#define INCL_DOSFILEMGR

#define OPEN_FILE 0x01
#define CREATE_FILE 0x10
#define FILE_ARCHIVE 0x20
#define FILE_EXISTS OPEN_FILE
#define FILE_NOEXISTS CREATE_FILE
#define DASD_FLAG 0
#define INHERIT 0x80
#define WRITE_THRU 0
#define FAIL_FLAG 0
#define SHARE_FLAG 0x10
#define ACCESS_FLAG 0x02

#define FILE_NAME "test.dat"
#define FILE_SIZE 800L
#define FILE_ATTRIBUTE FILE_ARCHIVE
#define RESERVED 0L
#define NULL_RANGE 0L

HFILE    FileHandle;
USHORT   Wrote;
USHORT   Action;
PSZ      FileData[100];
USHORT   rc;

struct LockStrc
{
    long Offset;
    long Range;
} Area;

int i;

Action = 2;
strcpy(FileData, "Data...");
Area.Offset = 4;
Area.Range = 100;

if(!DosOpen(FILE_NAME, /* File path name */
            &FileHandle, /* File handle */
            &Action, /* Action taken */
            FILE_SIZE, /* File primary allocation */
            FILE_ATTRIBUTE, /* File attribute */
            FILE_EXISTS | FILE_NOEXISTS, /* Open function
                                          type */
            DASD_FLAG | INHERIT | /* Open mode of the file */
            WRITE_THRU | FAIL_FLAG |
            SHARE_FLAG | ACCESS_FLAG,
```

```
RESERVED))          /* Reserved (must be zero) */
{
for(i=0; i<200; ++i)
    DosWrite(FileHandle, /* File handle */
             FileData, /* User buffer */
             sizeof(FileData), /* Buffer length */
             &Wrote); /* Bytes written */
rc = DosFileLocks(FileHandle, /* File handle */
                  NULL_RANGE, /* Unlock range */
                  (PLONG) &Area); /* Lock range */
rc = DosFileLocks(FileHandle, /* File handle */
                  (PLONG) &Area, /* Unlock range */
                  NULL_RANGE); /* Lock range */
}
```

### MASM Binding

```
EXTRN DosFileLocks:FAR
INCL_DOSFILEMGR EQU 1

PUSH WORD FileHandle ;File handle
PUSH@ OTHER UnlockRange ;Unlock range
PUSH@ OTHER LockRange ;Lock range
CALL DosFileLocks

Returns WORD
```

### Note

Text based on <http://www.edm2.com/index.php/DosFileLocks>

| 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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