



This is part of **Win16 API** which allow to create versions of program from one source code to run under OS/2 and Win16. Under OS/2 program can be running under Win-OS/2 if program is Windows NE executable, and with help on Windows Libraries for OS/2, if it is OS/2 NE executable. [Here](#) is a WLO to OS/2 API mapping draft

2021/09/01 04:23 · prokushev · [0 Comments](#)

# LocalAlloc

## Brief

Allocates a block of memory from the local heap of the current data segment.

## Syntax

```
HLOCAL WINAPI LocalAlloc(  
    UINT uFlags,  
    UINT uBytes  
);
```

## Parameters

- uFlags - Allocation attributes. Common flags:
  - LMEM\_FIXED (0x0000) - Allocates fixed memory; the return value is a pointer.
  - LMEM\_MOVEABLE (0x0002) - Allocates movable memory; returns a handle.
  - LMEM\_ZEROINIT (0x0040) - Initializes the memory to zero.
  - LMEM\_DISCARDABLE (0x0F00) - Makes the block discardable (only with LMEM\_MOVEABLE).
  - LMEM\_NOCOMPACT (0x0010) - Prevents heap compaction for this allocation.
  - LMEM\_NODISCARD (0x0020) - Prevents discarding of other blocks.

Shorthands: LHND (LMEM\_MOVEABLE | LMEM\_ZEROINIT), LPTR (LMEM\_FIXED | LMEM\_ZEROINIT).

- uBytes - Number of bytes to allocate. If zero and LMEM\_MOVEABLE is set, returns a handle to a discarded object.

## Return Value

If successful, returns a handle to the allocated object. For LMEM\_FIXED, this handle is actually a pointer.

Returns NULL on failure. Call GetLastError for extended error information.

## Notes

- For movable blocks, use LocalLock to obtain a pointer before accessing the memory.
- The internal lock count of a new block is zero.

## Example Code

### C Binding

```
HLOCAL hMem = LocalAlloc(LMEM_MOVEABLE | LMEM_ZEROINIT, 1024);  
HLOCAL hMem2 = LocalAlloc(LHND, 1024);
```

### MASM Binding

```
push 0042h ; LMEM_MOVEABLE | LMEM_ZEROINIT  
push 0400h ; 1024 bytes  
call LocalAlloc
```

## See also

[LocalReAlloc](#) [LocalFree](#) [LocalLock](#)

Group	Functions
<b>Module Management</b>	<a href="#">GetVersion</a> <a href="#">GetModuleHandle</a> <a href="#">GetModuleUsage</a> <a href="#">GetModuleFileName</a> <a href="#">GetProcAddress</a> <a href="#">MakeProInstance</a> <a href="#">FreeProInstance</a> <a href="#">GetInstanceData</a> <a href="#">CatchThrow</a> <a href="#">GetCodeHandle</a> <a href="#">LoadLibrary</a> <a href="#">FreeLibrary</a>
<b>Global Memory Management</b>	<a href="#">GlobalAlloc</a> <a href="#">GlobalCompact</a> <a href="#">GlobalDiscard</a> <a href="#">GlobalFree</a> <a href="#">GlobalLock</a> <a href="#">GlobalReAlloc</a> <a href="#">GlobalSize</a> <a href="#">GlobalUnlock</a> <a href="#">GlobalFlags</a>
<b>Local Memory Management</b>	<a href="#">LocalInit</a> <a href="#">LocalAlloc</a> <a href="#">LocalCompact</a> <a href="#">LocalDiscard</a> <a href="#">LocalFree</a> <a href="#">LocalLock</a> <a href="#">LocalFreeze</a> <a href="#">LocalMelt</a> <a href="#">LocalReAlloc</a> <a href="#">LocalSize</a> <a href="#">LocalUnlock</a> <a href="#">LocalHandleDelta</a> <a href="#">LockData</a> <a href="#">UnlockData</a> <a href="#">LocalFlags</a>
<b>Task Scheduling</b>	<a href="#">GetCurrentTask</a> <a href="#">Yield</a> <a href="#">SetPriority</a>
<b>Resource Management</b>	<a href="#">AddFontResource</a> <a href="#">RemoveFontResource</a> <a href="#">LoadBitmap</a> <a href="#">LoadCursor</a> <a href="#">LoadIcon</a> <a href="#">LoadMenu</a> <a href="#">LoadString</a> <a href="#">LoadAccelerators</a> <a href="#">FindResource</a> <a href="#">LoadResource</a> <a href="#">AllocResource</a> <a href="#">LockResource</a> <a href="#">FreeResource</a> <a href="#">AccessResource</a> <a href="#">SizeofResource</a> <a href="#">SetResourceHandler</a>
<b>String Manipulation</b>	<a href="#">AnsiUpper</a> <a href="#">AnsiLower</a> <a href="#">AnsiNext</a> <a href="#">AnsiPrev</a> <a href="#">AnsiUpperBuff</a> <a href="#">AnsiLowerBuff</a> <a href="#">Istrcmp</a> <a href="#">Istrcmpi</a> <a href="#">IsCharAlpha</a> <a href="#">IsCharAlphaNumeric</a> <a href="#">IsCharUpper</a> <a href="#">IsCharLower</a> <a href="#">_wsprintf</a> <a href="#">wvsprintf</a>
<b>Atom Management</b>	<a href="#">InitAtomTable</a> <a href="#">AddAtom</a> <a href="#">DeleteAtom</a> <a href="#">FindAtom</a> <a href="#">GetAtomName</a> <a href="#">GlobalAddAtom</a> <a href="#">GlobalDeleteAtom</a> <a href="#">GlobalFindAtom</a> <a href="#">GlobalGetAtomName</a>
<b>Initialization Files</b>	<a href="#">GetProfileInt</a> <a href="#">GetProfileString</a> <a href="#">WriteProfileString</a>
<b>Debugging</b>	<a href="#">FatalExit</a>

Group	Functions
<b>File Input/Output</b>	_lopen _lcreat _lseek _lread _lwrite _lclose OpenFile GetTempFileName GetTempDrive
<b>Registry</b>	RegOpenKey RegCreateKey RegCloseKey RegDeleteKey RegSetValue RegQueryValue RegEnumKey
<b>Window Management</b>	CreateWindow CreateWindowEx DestroyWindow ShowWindow CloseWindow OpenIcon MoveWindow SetWindowPos BringWindowToTop GetWindow GetParent SetParent GetNextWindow GetTopWindow GetWindowRect GetClientRect AdjustWindowRect AdjustWindowRectEx EnableWindow IsWindowEnabled IsWindowVisible IsIconic IsZoomed IsWindow IsChild FindWindow EnumWindows EnumChildWindows EnumTaskWindows GetDesktopWindow GetDesktopHwnd WindowFromPoint ChildWindowFromPoint GetWindowText SetWindowText GetWindowTextLength GetClassName GetWindowLong SetWindowLong GetWindowWord SetWindowWord GetWindowTask GetWindowPlacement SetWindowPlacement ArrangeIconicWindows CascadeChildWindows TileChildWindows ShowOwnedPopups AnyPopup GetLastActivePopup SetActiveWindow GetActiveWindow SetFocus GetFocus SetCapture GetCapture ReleaseCapture SetSysModalWindow GetSysModalWindow LockWindowUpdate RedrawWindow UpdateWindow InvalidateRect InvalidateRgn ValidateRect ValidateRgn GetUpdateRect GetUpdateRgn ExcludeUpdateRgn BeginDeferWindowPos DeferWindowPos EndDeferWindowPos FlashWindow
<b>Message Handling</b>	GetMessage PeekMessage PostMessage PostAppMessage SendMessage ReplyMessage InSendMessage WaitMessage TranslateMessage DispatchMessage GetMessagePos GetMessageTime GetMessageExtraInfo PostQuitMessage RegisterWindowMessage SetMessageQueue GetQueueStatus GetInputState QuerySendMessage
<b>Painting and Drawing</b>	BeginPaint EndPaint GetDC GetDCEX GetWindowDC ReleaseDC DrawText GrayString TabbedTextOut GetTabbedTextExtent FillRect InvertRect FrameRect DrawFocusRect DrawIcon ScrollDC ScrollWindow ScrollWindowEx FillWindow PaintRect GetControlBrush
<b>Menus</b>	CreateMenu CreatePopupMenu DestroyMenu GetMenu SetMenu GetSystemMenu GetSubMenu AppendMenu InsertMenu ModifyMenu DeleteMenu RemoveMenu ChangeMenu CheckMenuItem EnableMenuItem HiliteMenuItem GetMenuState GetMenuString GetMenuItemCount GetMenuItemID DrawMenuBar TrackPopupMenu GetMenuItemCheckDimensions SetMenuItemBitmaps IsMenu
<b>Clipboard</b>	OpenClipboard CloseClipboard EmptyClipboard GetClipboardOwner GetOpenClipboardWindow SetClipboardData GetClipboardData CountClipboardFormats EnumClipboardFormats RegisterClipboardFormat GetClipboardFormatName IsClipboardFormatAvailable GetPriorityClipboardFormat SetClipboardViewer GetClipboardViewer ChangeClipboardChain
<b>Caret</b>	CreateCaret DestroyCaret SetCaretPos GetCaretPos HideCaret ShowCaret SetCaretBlinkTime GetCaretBlinkTime
<b>Cursor and Icon</b>	SetCursor GetCursor SetCursorPos GetCursorPos ShowCursor ClipCursor GetClipCursor LoadCursor LoadIcon CreateCursor CreateIcon CopyCursor CopyIcon DestroyCursor DestroyIcon CreateCursorIconIndirect
<b>Scroll Bars</b>	SetScrollPos GetScrollPos SetScrollRange GetScrollRange ShowScrollBar EnableScrollBar CalcChildScroll

Group	Functions
<b>Dialog Boxes</b>	<a href="#">DialogBox</a> <a href="#">DialogBoxIndirect</a> <a href="#">DialogBoxParam</a> <a href="#">DialogBoxIndirectParam</a> <a href="#">CreateDialog</a> <a href="#">CreateDialogIndirect</a> <a href="#">CreateDialogParam</a> <a href="#">CreateDialogIndirectParam</a> <a href="#">EndDialog</a> <a href="#">GetDlgItem</a> <a href="#">SetDlgItemText</a> <a href="#">GetDlgItemText</a> <a href="#">SetDlgItemInt</a> <a href="#">GetDlgItemInt</a> <a href="#">CheckDlgButton</a> <a href="#">IsDlgButtonChecked</a> <a href="#">CheckRadioButton</a> <a href="#">SendDlgItemMessage</a> <a href="#">GetNextDlgGroupItem</a> <a href="#">GetNextDlgTabItem</a> <a href="#">GetDlgCtrlID</a> <a href="#">IsDialogMessage</a> <a href="#">MapDialogRect</a> <a href="#">GetDialogBaseUnits</a> <a href="#">DefDlgProc</a> <a href="#">DlgDirList</a> <a href="#">DlgDirListComboBox</a> <a href="#">DlgDirSelect</a> <a href="#">DlgDirSelectEx</a> <a href="#">DlgDirSelectComboBox</a> <a href="#">DlgDirSelectComboBoxEx</a>
<b>Device Context Management</b>	<a href="#">GetDC</a> <a href="#">GetDCEX</a> <a href="#">GetWindowDC</a> <a href="#">ReleaseDC</a> <a href="#">SaveDC</a> <a href="#">RestoreDC</a> <a href="#">CreateDC</a> <a href="#">CreateCompatibleDC</a> <a href="#">DeleteDC</a> <a href="#">ResetDC</a>
<b>Coordinates and Transformations</b>	<a href="#">SetMapMode</a> <a href="#">GetMapMode</a> <a href="#">SetWindowOrg</a> <a href="#">GetWindowOrg</a> <a href="#">SetWindowExt</a> <a href="#">GetWindowExt</a> <a href="#">SetViewportOrg</a> <a href="#">GetViewportOrg</a> <a href="#">SetViewportExt</a> <a href="#">GetViewportExt</a> <a href="#">OffsetWindowOrg</a> <a href="#">OffsetViewportOrg</a> <a href="#">ScaleWindowExt</a> <a href="#">ScaleViewportExt</a> <a href="#">DPToLP</a> <a href="#">LPtoDP</a>
<b>Drawing Functions</b>	<a href="#">SetPixel</a> <a href="#">GetPixel</a> <a href="#">MoveTo</a> <a href="#">LineTo</a> <a href="#">Polyline</a> <a href="#">Polygon</a> <a href="#">PolyPolygon</a> <a href="#">Rectangle</a> <a href="#">RoundRect</a> <a href="#">Ellipse</a> <a href="#">Arc</a> <a href="#">Chord</a> <a href="#">Pie</a> <a href="#">FloodFill</a> <a href="#">ExtFloodFill</a> <a href="#">DrawFocusRect</a> <a href="#">PatBlt</a> <a href="#">BitBlt</a> <a href="#">StretchBlt</a> <a href="#">StretchDIBits</a> <a href="#">SetDIBits</a> <a href="#">GetDIBits</a> <a href="#">SetDIBitsToDevice</a>
<b>Regions</b>	<a href="#">CreateRectRgn</a> <a href="#">CreateRectRgnIndirect</a> <a href="#">CreateRoundRectRgn</a> <a href="#">CreateEllipticRgn</a> <a href="#">CreateEllipticRgnIndirect</a> <a href="#">CreatePolygonRgn</a> <a href="#">CreatePolyPolygonRgn</a> <a href="#">CombineRgn</a> <a href="#">EqualRgn</a> <a href="#">OffsetRgn</a> <a href="#">FillRgn</a> <a href="#">FrameRgn</a> <a href="#">InvertRgn</a> <a href="#">PaintRgn</a> <a href="#">SelectClipRgn</a> <a href="#">ExcludeClipRect</a> <a href="#">IntersectClipRect</a> <a href="#">OffsetClipRgn</a> <a href="#">GetClipBox</a> <a href="#">GetRgnBox</a> <a href="#">PtInRegion</a> <a href="#">RectInRegion</a> <a href="#">SetRectRgn</a>
<b>Bitmaps</b>	<a href="#">CreateBitmap</a> <a href="#">CreateBitmapIndirect</a> <a href="#">CreateCompatibleBitmap</a> <a href="#">CreateDiscardableBitmap</a> <a href="#">CreateDIBitmap</a> <a href="#">CreateDIBPatternBrush</a> <a href="#">SetBitmapBits</a> <a href="#">GetBitmapBits</a> <a href="#">SetBitmapDimension</a> <a href="#">GetBitmapDimension</a>
<b>Brushes and Pens</b>	<a href="#">CreateSolidBrush</a> <a href="#">CreateHatchBrush</a> <a href="#">CreatePatternBrush</a> <a href="#">CreateBrushIndirect</a> <a href="#">CreatePen</a> <a href="#">CreatePenIndirect</a> <a href="#">SetBrushOrg</a> <a href="#">GetBrushOrg</a> <a href="#">SelectObject</a> <a href="#">GetObject</a> <a href="#">DeleteObject</a> <a href="#">GetStockObject</a> <a href="#">UnrealizeObject</a>
<b>Fonts and Text</b>	<a href="#">CreateFont</a> <a href="#">CreateFontIndirect</a> <a href="#">CreateScalableFontResource</a> <a href="#">AddFontResource</a> <a href="#">RemoveFontResource</a> <a href="#">EnumFonts</a> <a href="#">EnumFontFamilies</a> <a href="#">GetTextMetrics</a> <a href="#">GetTextExtent</a> <a href="#">GetTextFace</a> <a href="#">GetCharWidth</a> <a href="#">GetCharABCWidths</a> <a href="#">GetOutlineTextMetrics</a> <a href="#">GetGlyphOutline</a> <a href="#">GetKerningPairs</a> <a href="#">SetTextColor</a> <a href="#">GetTextColor</a> <a href="#">SetBkColor</a> <a href="#">GetBkColor</a> <a href="#">SetBkMode</a> <a href="#">GetBkMode</a> <a href="#">SetTextAlign</a> <a href="#">GetTextAlign</a> <a href="#">SetTextCharacterExtra</a> <a href="#">GetTextCharacterExtra</a> <a href="#">SetTextJustification</a> <a href="#">TextOut</a> <a href="#">ExtTextOut</a> <a href="#">TabbedTextOut</a> <a href="#">GetTabbedTextExtent</a>
<b>Metafiles</b>	<a href="#">CreateMetaFile</a> <a href="#">CloseMetaFile</a> <a href="#">DeleteMetaFile</a> <a href="#">CopyMetaFile</a> <a href="#">GetMetaFile</a> <a href="#">GetMetaFileBits</a> <a href="#">SetMetaFileBits</a> <a href="#">PlayMetaFile</a> <a href="#">PlayMetaFileRecord</a> <a href="#">EnumMetaFile</a> <a href="#">IsValidMetaFile</a>
<b>Printing</b>	<a href="#">StartDoc</a> <a href="#">EndDoc</a> <a href="#">StartPage</a> <a href="#">EndPage</a> <a href="#">SetAbortProc</a> <a href="#">AbortDoc</a> <a href="#">QueryAbort</a> <a href="#">OpenJob</a> <a href="#">CloseJob</a> <a href="#">DeleteJob</a> <a href="#">WriteSpool</a> <a href="#">StartSpoolPage</a> <a href="#">EndSpoolPage</a> <a href="#">SpoolFile</a>
<b>Palettes</b>	<a href="#">CreatePalette</a> <a href="#">SelectPalette</a> <a href="#">RealizePalette</a> <a href="#">GetPaletteEntries</a> <a href="#">SetPaletteEntries</a> <a href="#">ResizePalette</a> <a href="#">AnimatePalette</a> <a href="#">UpdateColors</a> <a href="#">GetNearestPaletteIndex</a> <a href="#">GetNearestColor</a> <a href="#">SetSystemPaletteUse</a> <a href="#">GetSystemPaletteUse</a> <a href="#">GetSystemPaletteEntries</a>
<b>Device Capabilities</b>	<a href="#">GetDeviceCaps</a> <a href="#">GetRasterizerCaps</a> <a href="#">GetEnvironment</a> <a href="#">SetEnvironment</a> <a href="#">GetAspectRatioFilter</a> <a href="#">Escape</a> <a href="#">CreateIC</a>
<b>Miscellaneous GDI</b>	<a href="#">SetROP2</a> <a href="#">GetROP2</a> <a href="#">SetPolyFillMode</a> <a href="#">GetPolyFillMode</a> <a href="#">SetStretchBltMode</a> <a href="#">GetStretchBltMode</a> <a href="#">SetMapperFlags</a> <a href="#">GetMapperFlags</a> <a href="#">LineDDA</a> <a href="#">MulDiv</a> <a href="#">GetCurrentPosition</a> <a href="#">GetBoundsRect</a> <a href="#">SetBoundsRect</a> <a href="#">FastWindowFrame</a>
<b>Timer</b>	<a href="#">SetTimer</a> <a href="#">KillTimer</a> <a href="#">GetTickCount</a> <a href="#">GetTimerResolution</a> <a href="#">GetCurrentTime</a>

Group	Functions
<b>Hooks</b>	SetWindowsHook SetWindowsHookEx UnhookWindowsHook UnhookWindowsHookEx CallNextHookEx DefHookProc CallMsgFilter
<b>Communications</b>	OpenComm CloseComm ReadComm WriteComm SetCommState GetCommState GetCommError TransmitCommChar SetCommEventMask GetCommEventMask SetCommBreak ClearCommBreak UngetCommChar BuildCommDCB EscapeCommFunction FlushComm EnableCommNotification
<b>Networking (WNet)</b>	WNetErrorText WNetOpenJob WNetCloseJob WNetAbortJob WNetHoldJob WNetReleaseJob WNetCancelJob WNetSetJobCopies WNetWatchQueue WNetUnwatchQueue WNetLockQueueData WNetUnlockQueueData WNetGetConnection WNetGetCaps WNetDeviceMode WNetBrowseDialog WNetGetUser WNetAddConnection WNetCancelConnection WNetGetError WNetGetErrorText WNetEnable WNetDisable WNetRestoreConnection WNetWriteJob WNetConnectDialog WNetDisconnectDialog WNetConnectionDialog WNetViewQueueDialog WNetPropertyDialog WNetGetDirectoryType WNetDirectoryNotify WNetGetPropertyText
<b>System Information</b>	GetSystemMetrics GetSysColor SetSysColors SystemParametersInfo GetFreeSystemResources GetSystemDebugState GetDoubleClickTime SetDoubleClickTime SwapMouseButton GetKeyState GetAsyncKeyState GetKeyboardState SetKeyboardState mouse_event GetMouseEventProc EnableHardwareInput IsUserIdle LockInput MessageBeep WinHelp
<b>Window Classes</b>	RegisterClass RegisterClassEx UnregisterClass GetClassInfo GetClassInfoEx GetClassWord SetClassWord GetClassLong SetClassLong GetClassName
<b>Window Properties</b>	SetProp GetProp RemoveProp EnumProps
<b>MDI Support</b>	DefFrameProc DefMDIChildProc TranslateMDISysAccel
<b>Drivers</b>	OpenDriver CloseDriver SendDriverMessage GetDriverModuleHandle GetDriverInfo GetNextDriver DefDriverProc
<b>Miscellaneous</b>	InitApp ExitWindows ExitWindowsExec OLDEXITWINDOWS BEAR11 BEAR86 BEAR182 UserSeeUserDo OldSetDeskPattern SetRect SetRectEmpty CopyRect IsRectEmpty PtInRect OffsetRect InflateRect IntersectRect UnionRect EqualRect SubtractRect

2022/11/17 15:22 · prokushev · 0 Comments

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Last update: **2026/02/25 08:48**

