



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

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

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

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