

Kernel Debugging Cheat Sheet

Command	Description
version	Displays target computer version
.sympath .sympath+ <path></path>	Displays debugger symbol path or appends to the current symbol path
!lmi <module></module>	Displays PDB files information for a module
!chksym <module></module>	Checks if the PDB file matches the module in memory
bl	Lists all the current breakpoints
bp <symbol> <address></address></symbol>	Sets an execution breakpoint on an address
bu <symbol></symbol>	Sets a deferred (unresolved) execution breakpoint on a symbol
ba <e r w> <1 2 4 8> <address></address></e r w>	Sets a memory access (Read, Write, Execute) breakpoint
be bd bc <breakpointid></breakpointid>	Enables, disables or clears a previously set breakpoint
g p t	Continues execution Steps over functions Traces into functions
db/dw/dd/dq/dp <address></address>	Displays Bytes/Word/DWord/QuadWord/Pointer contents at the given address
dps <address></address>	Displays pointers at the given address and resolves them to symbols
dt <pointer> <type></type></pointer>	Typecasts a pointer to the data/structure type and displays its contents
kvn	Displays the verbose call stack along with frame numbers
lmm <modulewildcard></modulewildcard>	Displays the list of modules filtered by the ModuleWildcard (i.e. '*' and '?').
In <address></address>	Displays the symbols in the vicinity of the given address
ub < Instruction Address >	Disassembles backwards from the specified address.
uf <functionaddress></functionaddress>	Performs a recursive descent disassembly of the given function
x <symbol></symbol>	Displays the virtual address at which the given symbol is present
r r < Register>	Displays all Registers of current CPU Displays the given register contents
?? <c c++="" expression=""></c>	Evaluates the given C/C++ expression (e.g. ?? this, ?? sizeof(variable))
? <masm expression=""></masm>	Evaluates the given MASM expression (e.g. ? @\$ptrsize)
!devobj <deviceobjectpointer></deviceobjectpointer>	Displays the DEVICE_OBJECT structure, specified by the pointer
!devstack < DeviceObjectPointer>	Displays the stack of layered DEVICE_OBJECT structures.
!drvobj <driverobjectname></driverobjectname>	Displays the DRIVER_OBJECT structure at the given address.
!dh <modulename></modulename>	Displays the PE header information of a module loaded in memory
!irql	Displays the interrupt request level of the current CPU
!idt	Displays the interrupt descriptor table of the current CPU
!handle 0 3 < Process > File	Displays details of all the handles to FILE_OBJECTs in the process
!irp <pointertoirp></pointertoirp>	Displays the IRP and the IO_STACK_LOCATION structures
!object <name> <pointer></pointer></name>	Displays an object by name (e.g. \Global??\COM1) or pointer
!pcr	Displays the kernel processor control region (KPCR) of the current CPU
!pool <poolblockpointer></poolblockpointer>	Displays the pool header, tag and size for the pool block
!process <pointer> <id> <flags></flags></id></pointer>	Displays information about the process by EPROCESS pointer or Process ID.
.process /r /P <pointer></pointer>	Switches the debuggers user mode process context to the specified process
!pte <va></va>	Displays the page table entries for the given virtual address
!thread	Displays information about the current thread
.thread <pointer></pointer>	Switches the debuggers register context to that of the specified thread
!vm 1	Displays overview of virtual memory state of the system
!vad <vadroot></vadroot>	Displays the virtual address descriptor (VAD) tree of the process