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Searchable Linux Syscall Table for x86 and x86_64

There are some tables like this around, but they are usually cool auto-generated hacks and that has the downfall of not distinguishing what of the different implementations is the correct one, etc.

So, here is a lovingly hand-crafted Linux Syscall table for the x86[-64] architecture, with arguments, calling convention and links to the code included. Also, fuzzy search!

64-bit

32-bit

(Coming soon)

Instruction: `syscall`

Return value found in: `%rax`

Syscalls are implemented in functions named as in the *Entry point* column, or with the `DEFINE_SYSCALLx(%name%` macro.

Relevant man pages: [syscall\(2\)](#), [syscalls\(2\)](#)

Double click on a row to reveal the arguments list. Search using the fuzzy filter box.

Filter:

%rax	Name	Entry point	Implementation
0	read	sys_read	fs/read_write.c
1	write	sys_write	fs/read_write.c
2	open	sys_open	fs/open.c
3	close	sys_close	fs/open.c
4	stat	sys_newstat	fs/stat.c
5	fstat	sys_newfstat	fs/stat.c
6	lstat	sys_newlstat	fs/stat.c
7	poll	sys_poll	fs/select.c
8	lseek	sys_lseek	fs/read_write.c
9	mmap	sys_mmap	arch/x86/kernel/sys_x86_64.c
10	mprotect	sys_mprotect	mm/mprotect.c
11	munmap	sys_munmap	mm/mmap.c
12	brk	sys_brk	mm/mmap.c
13	rt_sigaction	sys_rt_sigaction	kernel/signal.c
14	rt_sigprocmask	sys_rt_sigprocmask	kernel/signal.c
15	rt_sigreturn	stub_rt_sigreturn	arch/x86/kernel/signal.c
16	ioctl	sys_ioctl	fs/ioctl.c
17	pread64	sys_pread64	fs/read_write.c
18	pwrite64	sys_pwrite64	fs/read_write.c
19	readv	sys_readv	fs/read_write.c
20	writev	sys_writev	fs/read_write.c
21	access	sys_access	fs/open.c

%rax	Name	Entry point	Implementation
22	pipe	sys_pipe	fs/pipe.c
23	select	sys_select	fs/select.c
24	sched_yield	sys_sched_yield	kernel/sched/core.c
25	mremap	sys_mremap	mm/mmap.c
26	msync	sys_msync	mm/msync.c
27	mincore	sys_mincore	mm/mincore.c
28	madvise	sys_madvise	mm/madvise.c
29	shmget	sys_shmget	ipc/shm.c
30	shmat	sys_shmat	ipc/shm.c
31	shmctl	sys_shmctl	ipc/shm.c
32	dup	sys_dup	fs/file.c
33	dup2	sys_dup2	fs/file.c
34	pause	sys_pause	kernel/signal.c
35	nanosleep	sys_nanosleep	kernel/hrtimer.c
36	getitimer	sys_getitimer	kernel/itimer.c
37	alarm	sys_alarm	kernel/timer.c
38	setitimer	sys_setitimer	kernel/itimer.c
39	getpid	sys_getpid	kernel/sys.c
40	sendfile	sys_sendfile64	fs/read_write.c
41	socket	sys_socket	net/socket.c
42	connect	sys_connect	net/socket.c
43	accept	sys_accept	net/socket.c
44	sendto	sys_sendto	net/socket.c
45	recvfrom	sys_recvfrom	net/socket.c
46	sendmsg	sys_sendmsg	net/socket.c
47	recvmsg	sys_recvmsg	net/socket.c
48	shutdown	sys_shutdown	net/socket.c
49	bind	sys_bind	net/socket.c
50	listen	sys_listen	net/socket.c
51	getsockname	sys_getsockname	net/socket.c
52	getpeername	sys_getpeername	net/socket.c
53	socketpair	sys_socketpair	net/socket.c
54	setsockopt	sys_setsockopt	net/socket.c
55	getsockopt	sys_getsockopt	net/socket.c
56	clone	stub_clone	kernel/fork.c
57	fork	stub_fork	kernel/fork.c
58	vfork	stub_vfork	kernel/fork.c
59	execve	stub_execve	fs/exec.c
60	exit	sys_exit	kernel/exit.c
61	wait4	sys_wait4	kernel/exit.c
62	kill	sys_kill	kernel/signal.c
63	uname	sys_newuname	kernel/sys.c
64	semget	sys_semget	ipc/sem.c
65	semop	sys_semop	ipc/sem.c

%rax	Name	Entry point	Implementation
66	semctl	sys_semctl	ipc/sem.c
67	shmdt	sys_shmdt	ipc/shm.c
68	msgget	sys_msgget	ipc/msg.c
69	msgsnd	sys_msgsnd	ipc/msg.c
70	msgrcv	sys_msgrcv	ipc/msg.c
71	msgctl	sys_msgctl	ipc/msg.c
72	fcntl	sys_fcntl	fs/fcntl.c
73	flock	sys_flock	fs/locks.c
74	fsync	sys_fsync	fs/sync.c
75	fdatasync	sys_fdatasync	fs/sync.c
76	truncate	sys_truncate	fs/open.c
77	ftruncate	sys_ftruncate	fs/open.c
78	getdents	sys_getdents	fs/readdir.c
79	getcwd	sys_getcwd	fs/dcache.c
80	chdir	sys_chdir	fs/open.c
81	fchdir	sys_fchdir	fs/open.c
82	rename	sys_rename	fs/namei.c
83	mkdir	sys_mkdir	fs/namei.c
84	rmdir	sys_rmdir	fs/namei.c
85	creat	sys_creat	fs/open.c
86	link	sys_link	fs/namei.c
87	unlink	sys_unlink	fs/namei.c
88	symlink	sys_symlink	fs/namei.c
89	readlink	sys_readlink	fs/stat.c
90	chmod	sys_chmod	fs/open.c
91	fchmod	sys_fchmod	fs/open.c
92	chown	sys_chown	fs/open.c
93	fchown	sys_fchown	fs/open.c
94	lchown	sys_lchown	fs/open.c
95	umask	sys_umask	kernel/sys.c
96	gettimeofday	sys_gettimeofday	kernel/time.c
97	getrlimit	sys_getrlimit	kernel/sys.c
98	getrusage	sys_getrusage	kernel/sys.c
99	sysinfo	sys_sysinfo	kernel/sys.c
100	times	sys_times	kernel/sys.c
101	ptrace	sys_ptrace	kernel/ptrace.c
102	getuid	sys_getuid	kernel/sys.c
103	syslog	sys_syslog	kernel/printk/printk.c
104	getgid	sys_getgid	kernel/sys.c
105	setuid	sys_setuid	kernel/sys.c
106	setgid	sys_setgid	kernel/sys.c
107	geteuid	sys_geteuid	kernel/sys.c
108	getegid	sys_getegid	kernel/sys.c
109	setpgid	sys_setpgid	kernel/sys.c

%rax	Name	Entry point	Implementation
110	getppid	sys_getppid	kernel/sys.c
111	getpgrp	sys_getpgrp	kernel/sys.c
112	setsid	sys_setsid	kernel/sys.c
113	setreuid	sys_setreuid	kernel/sys.c
114	setregid	sys_setregid	kernel/sys.c
115	getgroups	sys_getgroups	kernel/groups.c
116	setgroups	sys_setgroups	kernel/groups.c
117	setresuid	sys_setresuid	kernel/sys.c
118	getresuid	sys_getresuid	kernel/sys.c
119	setresgid	sys_setresgid	kernel/sys.c
120	getresgid	sys_getresgid	kernel/sys.c
121	getpgid	sys_getpgid	kernel/sys.c
122	setfsuid	sys_setfsuid	kernel/sys.c
123	setfsgid	sys_setfsgid	kernel/sys.c
124	getsid	sys_getsid	kernel/sys.c
125	capget	sys_capget	kernel/capability.c
126	capset	sys_capset	kernel/capability.c
127	rt_sigpending	sys_rt_sigpending	kernel/signal.c
128	rt_sigtimedwait	sys_rt_sigtimedwait	kernel/signal.c
129	rt_sigqueueinfo	sys_rt_sigqueueinfo	kernel/signal.c
130	rt_sigsuspend	sys_rt_sigsuspend	kernel/signal.c
131	sigaltstack	sys_sigaltstack	kernel/signal.c
132	utime	sys_utime	fs/utimes.c
133	mknod	sys_mknod	fs/namei.c
134	uselib		fs/exec.c
135	personality	sys_personality	kernel/exec_domain.c
136	ustat	sys_ustat	fs/statfs.c
137	statfs	sys_statfs	fs/statfs.c
138	fstatfs	sys_fstatfs	fs/statfs.c
139	sysfs	sys_sysfs	fs/filesystems.c
140	getpriority	sys_getpriority	kernel/sys.c
141	setpriority	sys_setpriority	kernel/sys.c
142	sched_setparam	sys_sched_setparam	kernel/sched/core.c
143	sched_getparam	sys_sched_getparam	kernel/sched/core.c
144	sched_setscheduler	sys_sched_setscheduler	kernel/sched/core.c
145	sched_getscheduler	sys_sched_getscheduler	kernel/sched/core.c
146	sched_get_priority_max	sys_sched_get_priority_max	kernel/sched/core.c
147	sched_get_priority_min	sys_sched_get_priority_min	kernel/sched/core.c
148	sched_rr_get_interval	sys_sched_rr_get_interval	kernel/sched/core.c
149	mlock	sys_mlock	mm/mlock.c
150	munlock	sys_munlock	mm/mlock.c
151	mlockall	sys_mlockall	mm/mlock.c
152	munlockall	sys_munlockall	mm/mlock.c
153	vhangup	sys_vhangup	fs/open.c

%rax	Name	Entry point	Implementation
154	modify_ldt	sys_modify_ldt	arch/x86/um/ldt.c
155	pivot_root	sys_pivot_root	fs/namespace.c
156	_sysctl	sys_sysctl	kernel/sysctl_binary.c
157	prctl	sys_prctl	kernel/sys.c
158	arch_prctl	sys_arch_prctl	arch/x86/um/syscalls_64.c
159	adjtimex	sys_adjtimex	kernel/time.c
160	setrlimit	sys_setrlimit	kernel/sys.c
161	chroot	sys_chroot	fs/open.c
162	sync	sys_sync	fs/sync.c
163	acct	sys_acct	kernel/acct.c
164	settimeofday	sys_settimeofday	kernel/time.c
165	mount	sys_mount	fs/namespace.c
166	umount2	sys_umount	fs/namespace.c
167	swapon	sys_swapon	mm/swapfile.c
168	swapoff	sys_swapoff	mm/swapfile.c
169	reboot	sys_reboot	kernel/reboot.c
170	sethostname	sys_sethostname	kernel/sys.c
171	setdomainname	sys_setdomainname	kernel/sys.c
172	iopl	stub_iopl	arch/x86/kernel/ioport.c
173	ioperm	sys_ioperm	arch/x86/kernel/ioport.c
174	create_module		NOT IMPLEMENTED
175	init_module	sys_init_module	kernel/module.c
176	delete_module	sys_delete_module	kernel/module.c
177	get_kernel_syms		NOT IMPLEMENTED
178	query_module		NOT IMPLEMENTED
179	quotactl	sys_quotactl	fs/quota/quota.c
180	nfsservctl		NOT IMPLEMENTED
181	getpmsg		NOT IMPLEMENTED
182	putpmsg		NOT IMPLEMENTED
183	afs_syscall		NOT IMPLEMENTED
184	tuxcall		NOT IMPLEMENTED
185	security		NOT IMPLEMENTED
186	gettid	sys_gettid	kernel/sys.c
187	readahead	sys_readahead	mm/readahead.c
188	setxattr	sys_setxattr	fs/xattr.c
189	lsetxattr	sys_lsetxattr	fs/xattr.c
190	fsetxattr	sys_fsetxattr	fs/xattr.c
191	getxattr	sys_getxattr	fs/xattr.c
192	lgetxattr	sys_lgetxattr	fs/xattr.c
193	fgetxattr	sys_fgetxattr	fs/xattr.c
194	listxattr	sys_listxattr	fs/xattr.c
195	llistxattr	sys_llistxattr	fs/xattr.c
196	flistxattr	sys_flistxattr	fs/xattr.c
197	removexattr	sys_removexattr	fs/xattr.c

%rax	Name	Entry point	Implementation
198	lremovexattr	sys_lremovexattr	fs/xattr.c
199	fremovexattr	sys_fremovexattr	fs/xattr.c
200	tkill	sys_tkill	kernel/signal.c
201	time	sys_time	kernel/time.c
202	futex	sys_futex	kernel/futex.c
203	sched_setaffinity	sys_sched_setaffinity	kernel/sched/core.c
204	sched_getaffinity	sys_sched_getaffinity	kernel/sched/core.c
205	set_thread_area		arch/x86/kernel/tls.c
206	io_setup	sys_io_setup	fs/aio.c
207	io_destroy	sys_io_destroy	fs/aio.c
208	io_getevents	sys_io_getevents	fs/aio.c
209	io_submit	sys_io_submit	fs/aio.c
210	io_cancel	sys_io_cancel	fs/aio.c
211	get_thread_area		arch/x86/kernel/tls.c
212	lookup_dcookie	sys_lookup_dcookie	fs/dcookies.c
213	epoll_create	sys_epoll_create	fs/eventpoll.c
214	epoll_ctl_old		NOT IMPLEMENTED
215	epoll_wait_old		NOT IMPLEMENTED
216	remap_file_pages	sys_remap_file_pages	mm/fremap.c
217	getdents64	sys_getdents64	fs/readdir.c
218	set_tid_address	sys_set_tid_address	kernel/fork.c
219	restart_syscall	sys_restart_syscall	kernel/signal.c
220	semtimedop	sys_semtimedop	ipc/sem.c
221	fadvise64	sys_fadvise64	mm/fadvise.c
222	timer_create	sys_timer_create	kernel/posix-timers.c
223	timer_settime	sys_timer_settime	kernel/posix-timers.c
224	timer_gettime	sys_timer_gettime	kernel/posix-timers.c
225	timer_getoverrun	sys_timer_getoverrun	kernel/posix-timers.c
226	timer_delete	sys_timer_delete	kernel/posix-timers.c
227	clock_settime	sys_clock_settime	kernel/posix-timers.c
228	clock_gettime	sys_clock_gettime	kernel/posix-timers.c
229	clock_getres	sys_clock_getres	kernel/posix-timers.c
230	clock_nanosleep	sys_clock_nanosleep	kernel/posix-timers.c
231	exit_group	sys_exit_group	kernel/exit.c
232	epoll_wait	sys_epoll_wait	fs/eventpoll.c
233	epoll_ctl	sys_epoll_ctl	fs/eventpoll.c
234	tgkill	sys_tgkill	kernel/signal.c
235	utimes	sys_utimes	fs/utimes.c
236	vserver		NOT IMPLEMENTED
237	mbind	sys_mbind	mm/mempolicy.c
238	set_mempolicy	sys_set_mempolicy	mm/mempolicy.c
239	get_mempolicy	sys_get_mempolicy	mm/mempolicy.c
240	mq_open	sys_mq_open	ipc/mqueue.c
241	mq_unlink	sys_mq_unlink	ipc/mqueue.c

%rax	Name	Entry point	Implementation
242	mq_timedsend	sys_mq_timedsend	ipc/mqueue.c
243	mq_timedreceive	sys_mq_timedreceive	ipc/mqueue.c
244	mq_notify	sys_mq_notify	ipc/mqueue.c
245	mq_getsetattr	sys_mq_getsetattr	ipc/mqueue.c
246	kexec_load	sys_kexec_load	kernel/kexec.c
247	waitid	sys_waitid	kernel/_exit.c
248	add_key	sys_add_key	security/keys/keyctl.c
249	request_key	sys_request_key	security/keys/keyctl.c
250	keyctl	sys_keyctl	security/keys/keyctl.c
251	ioprio_set	sys_ioprio_set	fs/ioprio.c
252	ioprio_get	sys_ioprio_get	fs/ioprio.c
253	inotify_init	sys_inotify_init	fs/notify/inotify/inotify_user.c
254	inotify_add_watch	sys_inotify_add_watch	fs/notify/inotify/inotify_user.c
255	inotify_rm_watch	sys_inotify_rm_watch	fs/notify/inotify/inotify_user.c
256	migrate_pages	sys_migrate_pages	mm/mempolicy.c
257	openat	sys_openat	fs/open.c
258	mkdirat	sys_mkdirat	fs/namei.c
259	mknodat	sys_mknodat	fs/namei.c
260	fchownat	sys_fchownat	fs/open.c
261	futimesat	sys_futimesat	fs/utimes.c
262	newfstatat	sys_newfstatat	fs/stat.c
263	unlinkat	sys_unlinkat	fs/namei.c
264	renameat	sys_renameat	fs/namei.c
265	linkat	sys_linkat	fs/namei.c
266	symlinkat	sys_symlinkat	fs/namei.c
267	readlinkat	sys_readlinkat	fs/stat.c
268	fchmodat	sys_fchmodat	fs/open.c
269	faccessat	sys_faccessat	fs/open.c
270	pselect6	sys_pselect6	fs/select.c
271	ppoll	sys_ppoll	fs/select.c
272	unshare	sys_unshare	kernel/fork.c
273	set_robust_list	sys_set_robust_list	kernel/futex.c
274	get_robust_list	sys_get_robust_list	kernel/futex.c
275	splice	sys_splice	fs/splice.c
276	tee	sys_tee	fs/splice.c
277	sync_file_range	sys_sync_file_range	fs/sync.c
278	vmsplice	sys_vmsplice	fs/splice.c
279	move_pages	sys_move_pages	mm/migrate.c
280	utimensat	sys_utimensat	fs/utimes.c
281	epoll_pwait	sys_epoll_pwait	fs/eventpoll.c
282	signalfd	sys_signalfd	fs/signalfd.c
283	timerfd_create	sys_timerfd_create	fs/timerfd.c
284	eventfd	sys_eventfd	fs/eventfd.c
285	fallocate	sys_fallocate	fs/open.c

%rax	Name	Entry point	Implementation
286	timerfd_settime	sys_timerfd_settime	fs/timerfd.c
287	timerfd_gettime	sys_timerfd_gettime	fs/timerfd.c
288	accept4	sys_accept4	net/socket.c
289	signalfd4	sys_signalfd4	fs/signalfd.c
290	eventfd2	sys_eventfd2	fs/eventfd.c
291	epoll_create1	sys_epoll_create1	fs/eventpoll.c
292	dup3	sys_dup3	fs/file.c
293	pipe2	sys_pipe2	fs/pipe.c
294	inotify_init1	sys_inotify_init1	fs/notify/inotify/inotify_user.c
295	preadv	sys_preadv	fs/read_write.c
296	pwritev	sys_pwritev	fs/read_write.c
297	rt_tsigqueueinfo	sys_rt_tsigqueueinfo	kernel/signal.c
298	perf_event_open	sys_perf_event_open	kernel/events/core.c
299	recvmsg	sys_recvmsg	net/socket.c
300	fanotify_init	sys_fanotify_init	fs/notify/fanotify/fanotify_user.c
301	fanotify_mark	sys_fanotify_mark	fs/notify/fanotify/fanotify_user.c
302	prlimit64	sys_prlimit64	kernel/sys.c
303	name_to_handle_at	sys_name_to_handle_at	fs/fhandle.c
304	open_by_handle_at	sys_open_by_handle_at	fs/fhandle.c
305	clock_adjtime	sys_clock_adjtime	kernel/posix-timers.c
306	syncfs	sys_syncfs	fs/sync.c
307	sendmsg	sys_sendmsg	net/socket.c
308	setns	sys_setns	kernel/nsproxy.c
309	getcpu	sys_getcpu	kernel/sys.c
310	process_vm_readv	sys_process_vm_readv	mm/process_vm_access.c
311	process_vm_writev	sys_process_vm_writev	mm/process_vm_access.c
312	kcmp	sys_kcmp	kernel/kcmp.c
313	finit_module	sys_finit_module	kernel/module.c