



Red Hat Enterprise Linux Release 9.2 Manual Pages on 'setarch.8' command

\$ man setarch.8

SETARCH(8) System Administration SETARCH(8)

NAME

setarch - change reported architecture in new program environment
and/or set personality flags

SYNOPSIS

```
setarch [arch] [options] [program [argument...]]  
setarch --list|-h|-V  
arch [options] [program [argument...]]
```

DESCRIPTION

setarch modifies execution domains and process personality flags.
The execution domains currently only affects the output of `uname -m`.
For example, on an AMD64 system, running `setarch i386` program will
cause program to see `i686` instead of `x86_64` as the machine type. It can
also be used to set various personality options. The default program is
`/bin/sh`.

Since version 2.33 the `arch` command line argument is optional and
`setarch` may be used to change personality flags (`ADDR_LIMIT_*`,
`SHORT_INODE`, etc) without modification of the execution domain.

OPTIONS

`--list`

List the architectures that `setarch` knows about. Whether `setarch`
can actually set each of these architectures depends on the running
kernel.

--uname-2.6

Causes the program to see a kernel version number beginning with 2.6. Turns on UNAME26.

-v, --verbose

Be verbose.

-3, --3gb

Specifies program should use a maximum of 3GB of address space. Supported on x86. Turns on ADDR_LIMIT_3GB.

--4gb

This option has no effect. It is retained for backward compatibility only, and may be removed in future releases.

-B, --32bit

Limit the address space to 32 bits to emulate hardware. Supported on ARM and Alpha. Turns on ADDR_LIMIT_32BIT.

-F, --fdpic-funcptrs

Treat user-space function pointers to signal handlers as pointers to address descriptors. This option has no effect on architectures that do not support FDPIC ELF binaries. In kernel v4.14 support is limited to ARM, Blackfin, Fujitsu FR-V, and SuperH CPU architectures.

-I, --short-inode

Obsolete bug emulation flag. Turns on SHORT_INODE.

-L, --addr-compat-layout

Provide legacy virtual address space layout. Use when the program binary does not have PT_GNU_STACK ELF header. Turns on ADDR_COMPAT_LAYOUT.

-R, --addr-no-randomize

Disables randomization of the virtual address space. Turns on ADDR_NO_RANDOMIZE.

-S, --whole-seconds

Obsolete bug emulation flag. Turns on WHOLE_SECONDS.

-T, --sticky-timeouts

This makes select(2), pselect(2), and ppoll(2) system calls

preserve the timeout value instead of modifying it to reflect the amount of time not slept when interrupted by a signal handler. Use when program depends on this behavior. For more details see the timeout description in `select(2)` manual page. Turns on `STICKY_TIMEOUTS`.

`-X, --read-implies-exec`

If this is set then `mmap(3p)` `PROT_READ` will also add the `PROT_EXEC` bit - as expected by legacy x86 binaries. Notice that the ELF loader will automatically set this bit when it encounters a legacy binary. Turns on `READ_IMPLIES_EXEC`.

`-Z, --mmap-page-zero`

SVr4 bug emulation that will set `mmap(3p)` page zero as read-only. Use when program depends on this behavior, and the source code is not available to be fixed. Turns on `MMAP_PAGE_ZERO`.

`-V, --version`

Display version information and exit.

`-h, --help`

Display help text and exit.

EXAMPLE

```
setarch --addr-no-randomize mytestprog
setarch ppc32 rpmbuild --target=ppc --rebuild foo.src.rpm
setarch ppc32 -v -vL3 rpmbuild --target=ppc --rebuild bar.src.rpm
setarch ppc32 --32bit rpmbuild --target=ppc --rebuild foo.src.rpm
```

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SEE ALSO

`personality(2)`, `select(2)`

REPORTING BUGS

For bug reports, use the issue tracker at
<https://github.com/karelzak/util-linux/issues>.

AVAILABILITY

The `setarch` command is part of the `util-linux` package which can be

downloaded from Linux Kernel Archive

<<https://www.kernel.org/pub/linux/utils/util-linux/>>.

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SETARCH(8)