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

**\$ man setarch.8**

SEARCH(8) System Administration SEARCH(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 FDPIE 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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