



## ***Rocky Enterprise Linux 9.2 Manual Pages on command 'x86\_64.8'***

**C:\>man x86\_64.8**

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 also allows 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(3)` `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(3)` 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.

## EXAMPLES

```
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
```

## AUTHOR

Elliot Lee [sopwith@redhat.com](mailto:sopwith@redhat.com)

Jindrich Novy [jnovy@redhat.com](mailto:jnovy@redhat.com)

Karel Zak [kzak@redhat.com](mailto:kzak@redhat.com)

## SEE ALSO

[personality\(2\)](#), [select\(2\)](#)

## AVAILABILITY

The `setarch` command is part of the `util-linux` package and is available from Linux Kernel Archive <https://www.kernel.org/pub/linux/utils/util-linux/>.

util-linux

December 2017

SETARCH(8)