

**NAME**

clock\_getcpuclockid - obtain ID of a process CPU-time clock

**SYNOPSIS**

```
#include <time.h>
```

```
int clock_getcpuclockid(pid_t pid, clockid_t *clock_id);
```

Link with *-lrt* (only for glibc versions before 2.17).

Feature Test Macro Requirements for glibc (see [feature\\_test\\_macros\(7\)](#)):

```
clock_getcpuclockid():
```

```
  _XOPEN_SOURCE >= 600 || _POSIX_C_SOURCE >= 200112L
```

**DESCRIPTION**

The **clock\_getcpuclockid()** function obtains the ID of the CPU-time clock of the process whose ID is *pid*, and returns it in the location pointed to by *clock\_id*. If *pid* is zero, then the clock ID of the CPU-time clock of the calling process is returned.

**RETURN VALUE**

On success, **clock\_getcpuclockid()** returns 0; on error, it returns one of the positive error numbers listed in [ERRORS](#).

**ERRORS****ENOSYS**

The kernel does not support obtaining the per-process CPU-time clock of another process, and *pid* does not specify the calling process.

**EPERM**

The caller does not have permission to access the CPU-time clock of the process specified by *pid*. (Specified as an optional error in POSIX.1-2001; does not occur on Linux unless the kernel does not support obtaining the per-process CPU-time clock of another process.)

**ESRCH**

There is no process with the ID *pid*.

**VERSIONS**

The **clock\_getcpuclockid()** function is available in glibc since version 2.2.

**ATTRIBUTES****Multithreading (see [pthreads\(7\)](#))**

The **clock\_getcpuclockid()** function is thread-safe.

**CONFORMING TO**

POSIX.1-2001.

**NOTES**

Calling [clock\\_gettime\(2\)](#) with the clock ID obtained by a call to **clock\_getcpuclockid()** with a *pid* of 0, is the same as using the clock ID **CLOCK\_PROCESS\_CPUTIME\_ID**.

**EXAMPLE**

The example program below obtains the CPU-time clock ID of the process whose ID is given on the command line, and then uses [clock\\_gettime\(2\)](#) to obtain the time on that clock. An example run is the following:

```
$ ./a.out 1 # Show CPU clock of init process
CPU-time clock for PID 1 is 2.213466748 seconds
```

**Program source**

```
#define _XOPEN_SOURCE 600
#include <stdio.h>
#include <unistd.h>
```

```
#include <stdlib.h>
#include <time.h>

int
main(int argc, char *argv[])
{
    clockid_t clockid;
    struct timespec ts;

    if (argc != 2) {
        fprintf(stderr, "%s <process-ID>\n", argv[0]);
        exit(EXIT_FAILURE);
    }

    if (clock_getcpuclockid(atoi(argv[1]), &clockid) != 0) {
        perror("clock_getcpuclockid");
        exit(EXIT_FAILURE);
    }

    if (clock_gettime(clockid, &ts) == -1) {
        perror("clock_gettime");
        exit(EXIT_FAILURE);
    }

    printf("CPU-time clock for PID %s is %ld.%09ld seconds\n",
        argv[1], (long) ts.tv_sec, (long) ts.tv_nsec);
    exit(EXIT_SUCCESS);
}
```

**SEE ALSO**

[clock\\_getres\(2\)](#), [timer\\_create\(2\)](#), [pthread\\_getcpuclockid\(3\)](#), [time\(7\)](#)

**COLOPHON**

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