NAME

dwarf_srclines - retrieve line number information for a debugging information entry

LIBRARY

DWARF Access Library (libdwarf, -ldwarf)

SYNOPSIS

#include <libdwarf.h>

int
dwarf_srclines(*Dwarf_Die die, Dwarf_Line **lines, Dwarf_Signed *nlines, Dwarf_Error *err*);

DESCRIPTION

Function **dwarf_srclines**() returns line number information associated with a compilation unit. Line number information is returned as an array of *Dwarf_Line* descriptors.

Argument *die* should reference a DWARF debugging information entry descriptor with line number information, see dwarf(3). Argument *lines* should point to a location that will hold a pointer to the returned array of *Dwarf_Line* descriptors. Argument *nlines* should point to a location that will hold the number of descriptors returned. If argument *err* is not NULL, it will be used to store error information in case of an error.

The returned *Dwarf_Line* descriptors may be passed to the other line number functions in the API set to retrieve specific information about each source line.

Memory Management

The memory area used for the array of *Dwarf_Line* descriptors returned in argument *lines* is owned by the DWARF Access Library (libdwarf, -ldwarf). The application should not attempt to free this pointer. Portable code should instead use **dwarf_srclines_dealloc**() to indicate that the memory may be freed.

RETURN VALUES

Function **dwarf_srclines**() returns DW_DLV_OK when it succeeds. In case of an error, it returns DW_DLV_ERROR and sets the argument *err*.

EXAMPLES

To obtain an array of *Dwarf_Line* descriptors and to retrieve the source file, line number, and virtual address associated with each descriptor:

```
int n;
Dwarf_Die die;
```

```
Dwarf_Error de;
char *filename;
Dwarf_Line *lines;
Dwarf_Signed nlines;
Dwarf_Addr lineaddr;
Dwarf_Unsigned lineno;

/* variable "die" should reference a DIE for a compilation unit */

if (dwarf_srclines(die, &lines, &nlines, &de) != DW_DLV_OK)
        errx(EXIT_FAILURE, "dwarf_srclines: %s", dwarf_errmsg(de));

for (n = 0; n < nlines; n++) {
        /* Retrieve the file name for this descriptor. */
        if (dwarf_linesrc(lines[n], &filename, &de))
                errx(EXIT_FAILURE, "dwarf_linesrc: %s",
                   dwarf_errmsg(de));

        /* Retrieve the line number in the source file. */
        if (dwarf_lineno(lines[n], &lineno, &de))
                errx(EXIT_FAILURE, "dwarf_lineno: %s",
                   dwarf_errmsg(de));
        /* Retrieve the virtual address for this line. */
        if (dwarf_lineaddr(lines[n], &lineaddr, &de))
                errx(EXIT_FAILURE, "dwarf_lineaddr: %s",
                   dwarf_errmsg(de));
        }
```

ERRORS

Function **dwarf_srclines**() can fail with:

[DW_DLE_ARGUMENT] One of the arguments *die*, *lines* or *nlines* was NULL.

[DW_DLE_NO_ENTRY] The compilation unit referenced by argument *die* does not have associated line number information.

[DW_DLE_MEMORY] An out of memory condition was encountered during the execution of this function.

SEE ALSO

dwarf(3), dwarf_line_srcfileno(3), dwarf_lineaddr(3), dwarf_linebeginstatement(3), dwarf_lineblock(3), dwarf_lineendsequence(3), dwarf_lineno(3), dwarf_lineoff(3), dwarf_linesrc(3), dwarf_srcfiles(3), dwarf_srclines_dealloc(3)