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/*
FUSE: Filesystem in Userspace
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gcc -Wall hello.c `pkg-config fuse --cflags --libs` -o hello
*/

#define FUSE_USE_VERSION 26

#include <fuse.h>
#include <stdio.h>
#include <string.h>
#include <errno.h>
#include <fcntl.h>

static const char *hello_str = "Hello World!\n";
static const char *hello_path = "/hello";

static int hello_getattr(const char *path, struct stat *stbuf)
{
    int res = 0;

    memset(stbuf, 0, sizeof(struct stat));
    if (strcmp(path, "/") == 0) {
        stbuf->st_mode = S_IFDIR | 0755;
        stbuf->st_nlink = 2;
    } else if (strcmp(path, hello_path) == 0) {
        stbuf->st_mode = S_IFREG | 0444;
        stbuf->st_nlink = 1;
        stbuf->st_size = strlen(hello_str);
    } else
        res = -ENOENT;

    return res;
}

static int hello_readdir(const char *path, void *buf,
fuse_fill_dir_t filler,
                        off_t offset, struct fuse_file_info *fi)
{
    (void) offset;
    (void) fi;

    if (strcmp(path, "/") != 0)
        return -ENOENT;

    filler(buf, ".", NULL, 0);
    filler(buf, "..", NULL, 0);
    filler(buf, hello_path + 1, NULL, 0);

    return 0;
}

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}

static int hello_open(const char *path, struct fuse_file_info *fi)
{
    if (strcmp(path, hello_path) != 0)
        return -ENOENT;

    if ((fi->flags & 3) != O_RDONLY)
        return -EACCES;

    return 0;
}

static int hello_read(const char *path, char *buf, size_t size,
off_t offset,
                    struct fuse_file_info *fi)
{
    size_t len;
    (void) fi;
    if (strcmp(path, hello_path) != 0)
        return -ENOENT;

    len = strlen(hello_str);
    if (offset < len) {
        if (offset + size > len)
            size = len - offset;
        memcpy(buf, hello_str + offset, size);
    } else
        size = 0;

    return size;
}

static struct fuse_operations hello_oper = {
    .getattr    = hello_getattr,
    .readdir    = hello_readdir,
    .open       = hello_open,
    .read       = hello_read,
};

int main(int argc, char *argv[])
{
    return fuse_main(argc, argv, &hello_oper, NULL);
}

```

SAMPLE I/O

