【Linux Programming】Day11

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Summary	File Structure and Device Files

【Ch3】Working with Files

3.1 Linux File Structure

3.1.1 Directories

The properties of files are stored in the file's inode, a special block of data that also contains the length of the file and where on the disk it's stored.

A directory is a file that holds the inode numbers and names of other files. Each directory entry is a link to a file's inode.(We can see the inode number by using `ln -i`)

When we delete a file, the entry to that file is removed and the number of links to the file goes down by one. The data for the file is possibly still available through other links to the same file. When the number of links reaches 0, the inode

Files are arranged in directories, which may also contain subdirectories. A user, `arthur`, may has his file stored in a home directory, perhaps `/home/arthur`. To get straight to the home directory, use the tilde notation(`~`).

The root directory includes

- `/bin` for system programs
- `/etc` for system configuration files
- `/lib` for system libraries

- `/dev` for files that represent physical devices and provide the interface to those devices.

3.2 Files and Devices

Three important device files are `/dev/console`, `/dev/tty`, and `/dev/null`.

3.2.1 /dev/console

This device represents the system console. Error messages and diagnostics are often sent to this device.

3.2.2 /dev/tty

The file `/dev/tty` is an alias for the controlling terminal(keyboard and screen, or window) of a process, it if has one.

3.2.3 /dev/null

The `/dev/null` file is the null device. All output written to this file is discarded. An immediate end of file is returned when the device is read, and it can be used as the source of an empty file by using the `cp` command.