

## System Monitoring

### Kernel Modules and Device Management



#### Reading:

Loading/Unloading Kernel Modules

15 min



**Video:** Using Kernel Modules (Demo)

4 min



**Video:** Device Management

5 min



**Video:** Using udev (Demo)

2 min



**Reading:** Managing System Services

15 min

## Device Management

### Types of Devices

There are three main types of devices:

- **Character devices** are sequential streams; they mainly implement **open**, **close**, **read**, and **write** functions, e.g. serial and parallel ports (**/dev/ttyS0**, **/dev/lp1**), sound cards (**/dev/dsp0**), etc.
- **Block devices** are randomly accessed only in block-size multiples, and I/O operations are usually cached and deal with mounted filesystems, e.g. hard drive partitions (**/dev/sda1**, **/dev/sdb8**), CD-ROMs, etc.
- **Network devices** transfer packets of data, not blocks or streams, and usually employ a socket interface; packet reception/transmission functions replace read/write operations, and there are no corresponding filesystem nodes; instead, the interfaces are identified by a name, such as **eth0** or **wlan0**.