# Cheatsheets

Contents

[Cheatsheets 1](#_Toc178179555)

[Linux Operating System 2](#_Toc178179556)

[Basic System Commands 2](#_Toc178179557)

[Work with File Systems 2](#_Toc178179558)

[Catalog /proc 2](#_Toc178179559)

[Users and Groups 2](#_Toc178179560)

[Packages 2](#_Toc178179561)

[Network 2](#_Toc178179562)

[Kernel 3](#_Toc178179563)

[Loaders (GRUB/GRUB2) 3](#_Toc178179564)

[Initialization and Processes 3](#_Toc178179565)

[MUST HAVE Commands 3](#_Toc178179566)

[Monitoring and Debugging Commands 3](#_Toc178179567)

[??? 3](#_Toc178179568)

[Configuration Files 3](#_Toc178179569)

[Journaling 3](#_Toc178179570)

[Server Security 3](#_Toc178179571)

[Optimization and Automation 3](#_Toc178179572)

[Virtualization 3](#_Toc178179573)

[Utilities 4](#_Toc178179574)

[Telnet 4](#_Toc178179575)

[???? 4](#_Toc178179576)

[Bash 4](#_Toc178179577)

[Java 4](#_Toc178179578)

[JS / Node.js 4](#_Toc178179579)

[Python 4](#_Toc178179580)

## Linux Operating System

### Basic System Commands

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### Work with File Systems

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#### Catalog /proc

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| --- | --- |
| /proc/cmdline | OS boot parameters |
| /proc/consoles | Current console info |
| /proc/devices | Devices drivers, working at the moment |
| /proc/dma | Current DMA channels |
| /proc/fb | Framebuffer devices |
| /proc/filesystems | Supported file systems by the current kernel version |
| /proc/iomem | Current map of the system memory for devices |
| /proc/ioports | Registered ports ranges and devices, using them |
| /proc/loadavg | System load in the time aspect + number of running processes + PID of the last process |
| /proc/locks | Files locked by kernel |
| /proc/meminfo | System memory info |
| /proc/misc | Applied devices drivers |
| /proc/modules | Loaded kernel modules (in the current moment) |
| /proc/mounts | Mount points, used by system |
| /proc/partitions | Available partitions for the system |
| /proc/pci | PCI-devices info |
| /proc/stat | Records and stat info saved since the latest restart |
| /proc/swaps | SWAP info |
| /proc/uptime | System working time in seconds |
| /proc/version | Kernel version, GCC version + installed Linux info |
|  |  |

### Users and Groups

TBD

### Packages

TBD

### Network

TBD

### Kernel

TBD

### Loaders (GRUB/GRUB2)

TBD

### Initialization and Processes

TBD

### MUST HAVE Commands

#### Monitoring and Debugging Commands

|  |  |
| --- | --- |
| top | Show running processes and used resources with autoupdate |
| ps -eafw | Show running processes and used resources + other info – show once |
| ps -e -o pid,args --forest | Show PIDs and processes as a tree |
| pstree | Show processes tree |
| kill -9 98989  kill -KILL 98989 | Kill the process with PID = 98989 (no data consistency) |
| kill -TERM 98989 | Kill the process with PID = 98989 (gracefully) |
| kill -1 98989  kill -HUP 98989 | Force the process with PID = 98989 to reload it’s config |
| lsof -p 98989 | Show files opened by the process with PID = 98989 |
| lsof /home/user1 | Show files opened from the directory /home/user1 |
| strace -c ls > /dev/null | Show list of the system calls created and received by the process ls |
| strace -f -e open ls > /dev/null | Show calls to the libraries |
| watch -n1 ‘cat /proc/interrupts’ | Show interrupts in the real time |
| last reboot | Show the system’s reboot history |
| last user1 | Show history of registration user1 in the system and time spent in the system |
| lsmod | Show loaded kernel modules |
| free -m | Show the RAM state in megabytes |
| smartctl -A /dev/had | Control the hard drive /dev/had state via SMART |
| smartctl -i /dev/had | Check whether SMART is available on the hard drive /dev/had |
| tail /var/log/dmesg | Show the last 10 records from the kernel load journal |
| tail /var/log/messages | Show the last 10 records from the system journal |
|  |  |

#### ???

TBD

### Configuration Files

TBD

### Journaling

TBD

### Server Security

TBD

### Optimization and Automation

TBD

### Virtualization

TBD

## Utilities

### Telnet

|  |  |
| --- | --- |
| telnet <hostname> <port> | Basic usage |
| telnet example.com 80 | Basic usage - example |
| telnet <dns-server> 53 | Check DNS server |
| Ctrl + ]  *quit*  *help*  *open <hostname> <port>*  *close*  *display*  *mode*  *send*  *status*  *set / unset* | Close session (move to the command mode), below see some of the commands  - type <quit> after move to the command mode – close connection  - show possible commands  - open new connection to the host specified  - close connection  - current connection parameters  - switch current mode, for ex. *line* or *`character`*  - send control symbols, for ex. *send escape*  - current connection status  - sets / unsets the current connection parameters, for ex. *set echo* / *unset echo* |
| telnet <HTTP server> <port>  *GET / HTTP/1.1*  *Host: example.com* | Sending text request after connection to the HTTP server |
|  |  |

## ????

TBD

## Bash

TBD

## Java

TBD

## JS / Node.js

TBD

## Python

TBD