

File system and commands

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A command from inside (C)

- prog.c

```
int main( int argc, char *argv[] )
{
    int i;
    for( i = 0; i < argc; i++ ) {
        if( argv[i][0] == '-' &&
            argv[i][1] == 'a' ) {
            /* process -a option */
        } else {
            /* process other options and
             file arguments */
        }
    }
    return 0;
}
```

A command from inside (Perl)

- prog

```
#!/usr/bin/perl -w
```

```
use strict;
```

```
for my $arg (@ARGV) {  
    if( $arg =~ /^-a$/ ) {  
        # process -a option  
    } else {  
        # process other options and  
        # file arguments  
    }  
}
```

STDIN, STDOUT, STDERR

- `cmd < input.dat`
- `cmd > output.dat`
- `cmd < input.dat > output.dat`
- `cmd1 | cmd2`
- `cmd 2> err.log`

Advanced redirections

- `cmd < input.txt | cmd2 | cmd3 > res.dat`
- `cmd >& cmd.log # tcsh, bash`
- `cmd >> old_file.dat`
- `cmd > result.log 2>&1`
- `cmd >> result.log 2>&1`
- `cmd 2>&1 | cmd2`
- `cmd >! overwritten.txt # tcsh`

A command interpreter

Shell, sh

- `sh# cmd input.txt > output.txt`
- `sh# sh < commands.sh > outputs.res`
- `sh# sh script.sh dat1.txt dat2.txt > out.res`

- prog

```
#!/bin/sh
```

```
set -ue
```

```
FILE=""
```

```
for arg in $*
```

```
do
```

```
    case "$arg" in
```

```
        -a) echo "This is 'a' option" ;;
```

```
        -b) echo "This is 'b' option" ;;
```

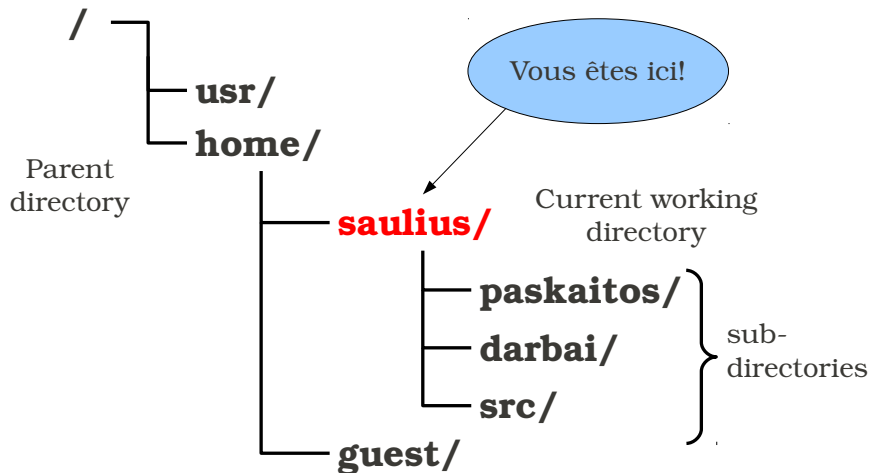
```
        *) FILE=$1;; # process file arguments
```

```
    esac
```

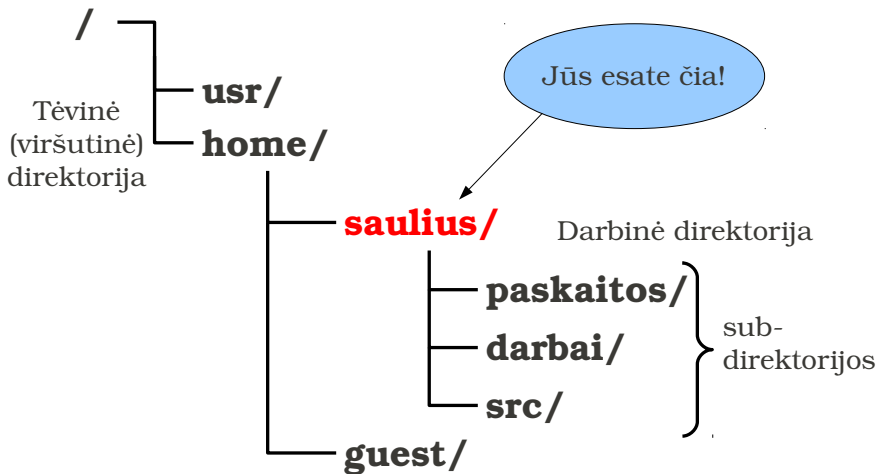
```
done
```

- Šaknis: „/“
- Direktorijos is subdirektorijos (katalogai, aplankai, „folderiai“):
 - /usr, /bin, /etc, /home, /usr/bin
- Montavimo taškai:
 - /mnt, /media, /cdrom
- Namų direktorijos:
 - /home/saulius, /home/guest, /home/ftp

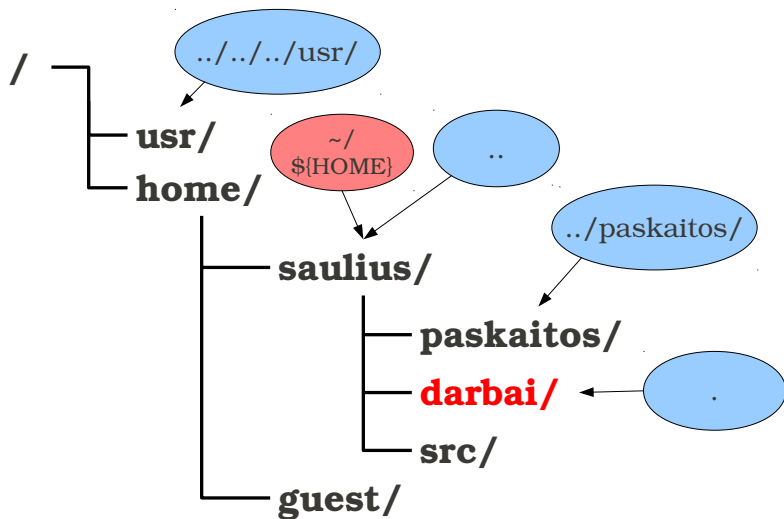
Working directory



Working directory (Lithuanian terms)



Special file names



- Failas darbinėje direktorijoje: file.dat
- Reliatyvus kelias: dir/subdir/file.dat
- Absoliutus kelias:
/usr/home/saulius/data/file.dat
- Specialios direktorijos . ir .. :
 - ./file.dat (tas pats kaip ir tiesiog file.dat)
 - ../file.dat ../sibling-dir/file.dat
 - ../../../../subdir/subsubdir/file.txt

Commands for text files

- echo, cat, tac
 - echo "Labas"; echo "Labas" > pasveikinimas.txt
 - cat; cat > tekstas.txt; cat < įdomu.txt;
 - cat vienas.txt du.txt trys.txt > visi.txt
 - echo "Nauja pirma eilutė" | cat - senas > naujas
- head, tail
 - head -n 20
 - tail -f

Commands for text files (2)

- `sort`
 - `sort sąrašas.lst > surikiuotas-sąrašas.lst`
 - `sort -nr -k5`
- `more`, `less`
 - `less failas.txt; less -r failas.txt`
 - `less -f binary.bin; less -iS binary.txt`
- `diff`, `cmp`, `comm`
 - `diff senas.txt naujas.txt`
 - `diff -s senas.txt naujas.txt`

Commands for managing file tree

- `cp`, `mv`, `rm`, `mkdir`, `rmdir`, `cd`
 - `cd`
 - `cd -`
 - `cp -i`; `mv -i`; `rm -i`
 - `rm -rf`
- `ls`,
 - `ls -l`; `ls -S` # rikiuoti pagal dydį
 - `ls -R`; `ls -lR`; `ls -t` # rikiuoti pagal laiką
- `pwd`

- history
 - history > history-2011.09.01.txt
- touch
 - touch failas.dat
- date
 - date +%Y-%m-%d
- w, who
- whoami

A saving straw

RTFM (Read the fine manual :)

- `man head`
 - `man man`
- `man -k more`
- `cat --help`
- `which ls, type ls`
- `<Tab>, ls<Tab>`

- Aplinkos kintamasis PATH:

```
sh$ echo $PATH  
/home/user/bin:/usr/local/bin:/usr/bin:/bin
```

Exotic commands

- pushd, popd
 - pushd kita-direktorija
 - popd
- screen
 - screen -L