

Bash - The Basics

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Overview

Terminals and Shells

Commands

Pipes

Terminals and Shells

Terminal emulators - *“A program that emulates a video terminal within some other display architecture”* -

en.wikipedia.org/wiki/Terminal_emulator

Examples on OS X:

- ▶ Terminal (preinstalled)
- ▶ iTerm 2 - iterm2.com
- ▶ Terminator

Terminals run shells e.g. Bash, Zsh, Ksh, fish

Terminals and Shells

Bash - **“GNU Bourne-Again SHell”**

GNU - *“A Unix-like operating system. That means it is a collection of many programs: applications, libraries, developer tools, even games”* - gnu.org

Bourne SHell - The Bourne shell (`sh`). Developed by Stephen Bourne at Bell Labs in 1977 for Version 7 Unix - en.wikipedia.org/wiki/Bourne_shell

We can use shells like Bash to run programs

Commonly used programs

man, ls, cat, cp, mv, rm, rmdir, mkdir, chmod, ln,
sudo, !, echo, pwd, diff, history, find, ssh, scp,
less, grep

Open your terminal emulator...

man

man - format and display the on-line manual pages

```
$ man ls
```

pwd and ls

pwd - return working directory name ls - list directory contents

```
$ pwd
```

```
$ ls
```

```
$ ls -al
```

cat and less

cat - concatenate and print files

less - read files

```
$ cat README.md
```

```
$ less README.md
```


mv and copy

mv - move files

cp - copy files

```
$ mv source target
```

```
$ cp source target
```

rm, rmdir, mkdir

rm - remove directory entries

rmdir - remove directories

mkdir - make directories

```
$ rm file
```

```
$ rmdir directory
```

```
$ mkdir directory
```

sudo

sudo - execute a command as another user (or, “Shut Up and DO”)

```
$ touch /etc/foo.txt  
$ sudo touch /etc/foo.txt  
$ rm /etc/foo.txt  
$ sudo rm /etc/foo.txt
```

ssh and scp

ssh - OpenSSH SSH client (remote login program)

scp - secure copy (remote file copy program)

```
$ ssh root@<remote ip address>
```

```
$ ssh -i /path/to/key/file root@<remote ip address>
```

```
$ scp root@<remote ip address> /path/on/local/machine/
```

```
$ scp /path/on/local/machine/hello.txt \
```

```
root@<remote ip address>:/path/on/remote/machine
```

Pipes