

Introduction to the Command Line

The command line is a text-based interface for interacting with a computer system. It allows users to enter commands and receive immediate feedback. The command line can be used to perform a wide variety of tasks, from basic file operations to complex system administration.

The command line interface is typically provided by a terminal window or a shell program. A shell is a program that interprets user input and executes commands. The most common shells are Bash, Zsh, and Csh.

When you type a command into the command line, the shell will execute it and display the results. For example, if you type "ls" (list) into the command line, the shell will display a list of files and directories in the current directory.

The command line is a powerful tool for system administration. It allows administrators to quickly and efficiently manage their systems. For example, they can use the "grep" command to search for specific text patterns in files, or the "find" command to search for files based on their location and name.

The command line is also useful for developers. They can use it to build and test software, and to manage their code repositories. For example, they can use the "git" command to clone a repository, commit changes, and push them to a remote server.

The command line is a fundamental part of many Linux distributions. It provides a way to interact with the system at a low level, and is often used for system configuration and management.

Objectives

- Know why the command line is a useful tool
- Understand how to read a man page
- Navigate the files system using cd, ls and pwd
- Create, move and remove files directores using touch, mv and rm, mkdir, rmdir
- Copy files from one directory to another using cp
- Pipe commands together
- Search files using grep

**"Mastery of the command line
will make you a faster and
more powerful developer"**

Unix Philosophy

“Do one thing and do it well.”



chaining commands

A close-up photograph of a dark, textured chain link against a blurred green background. The chain is made of metal links and has a weathered, dark brown or black appearance. The background is out of focus, showing hints of green foliage.

Scripting

```
19. Sep 09:32 bin    -> usr/bin  
21. Sep 15:52 boot  
19. Sep 09:32 dev  
21. Sep 15:52 etc  
30. Sep 2015 home  
30. Sep 2015 lib    -> usr/lib  
30. Sep 2015 lib64  -> usr/lib  
23. Jul 10:01 lost+found  
1. Aug 22:45 lost+found  
30. Sep 2015 mnt  
21. Sep 15:52 opt  
21. Sep 15:52 private -> /home/encrypted  
21. Sep 09:15 proc  
12. Aug 15:37 root  
21. Sep 15:50 run  
30. Sep 2015 sbin   -> usr/bin  
30. Sep 2015 srv  
21. Sep 15:51 sys  
21. Sep 15:45 tmp
```

Finding Help

```
man man  
man ls
```

File System Commands

```
cd ~  
ls  
ls -a  
ls -l  
ls -R
```

Note: there are often more flags than you will have use for

```
pwd
```

```
cd /  
cd ~  
cd ../../  
pwd
```

File Manipulation

create and view a file

```
touch notes.txt  
echo "Mochi" >> notes.txt  
echo "Bootsy" >> notes.txt  
ls -l notes.txt  
cat notes.txt
```

rename a file

```
mv notes.txt cats.txt  
cat cats.txt
```

delete a file

```
rm cats.txt
```

Directory manipulation

create and remove a directory

```
cd ~  
mkdir test  
ls -l ~  
rmdir test
```

get organized!

```
mkdir -p ~/workspace/q1
```

Copying files

```
mkdir cats  
mkdir pets  
touch cats/meow.txt  
cp -R cats/* pets/.  
ls -laR pets
```

Piping Commands

history

history | tail

history > history.txt

Search

```
grep ls history.txt  
grep -A1 ls history.txt  
grep -B1 ls history.txt  
grep -C1 ls history.txt
```

Word of caution

The command line is extremely powerful. There are some command that can ruin your computer or your day. Example (Do not run these commands)...

rm -rf / <- This will ruin your day

Which includes making a typo!

rm -rf / Users/Craig/test <- note space after / DOH!

Other favorite commands

clear

cal

ssh

find

chmod

whoami

groups

sudo

vim

open

top

ps

Resources

- Unix Man Pages
- explainshell.com
- Learn the command line the hard way.
- OS X Terminal Cheatsheets