



# Linux Commands

# Objectives

- Examine how the linux command line facilitates interaction with files, processes, and the system.
- Leverage the linux command line to traverse the file system of a computer.
- Discuss methods for finding information about an unknown command.



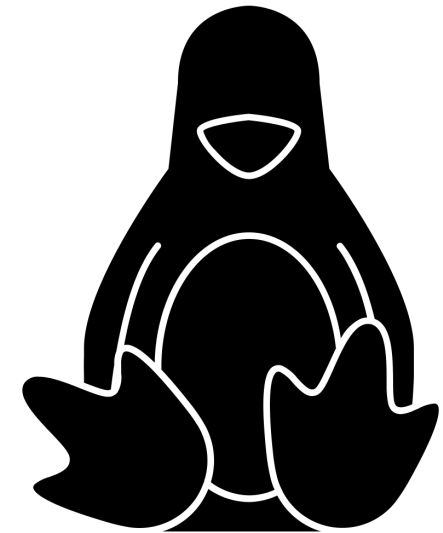
# References

- <https://linuxsurvival.com>
- <https://overthewire.org/wargames/>



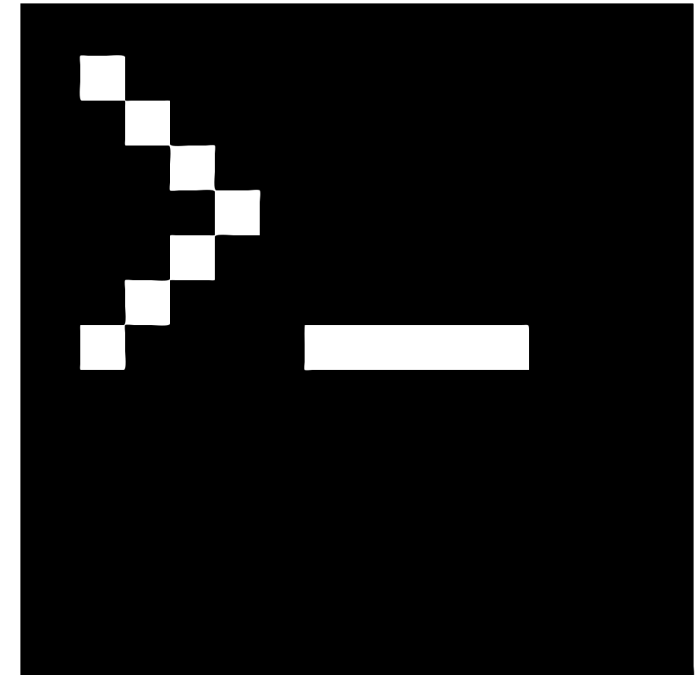
# Linux

- We will use the open-source Linux Operating system for our course.
- Linux is an open-source operating system.
- In most cases, we will just directly interface with the operating system through the shell.



# Shell

- The **shell** is a command-line interpreter that allows us to run applications and commands.
- The flexibility of the shell gives us a lot more command over our actions than graphical users interfaces.
- We will specifically use the **Zsh shell**, which we customized for our environment.



# Directory Shortcuts

<b>/</b>	root directory
<b>~</b>	user's home directory
<b>.</b>	current directory
<b>..</b>	parent's directory

- Linux uses a hierarchical directory structure
- Shortcuts can be helpful navigating this directory structure.

# Traversing Directories

<b>ls</b>	list the contents of the current directory
<b>cd &lt;path&gt;</b>	change to the <path> directory
<b>pwd</b>	print the current working directory
<b>mkdir</b>	make a directory
<b>rmdir</b>	remove a directory

# File Commands

<b>touch &lt;file&gt;</b>	create a new file named <file>
<b>mv &lt;src&gt; &lt;dst&gt;</b>	rename/move the file at <src> to <dst>
<b>nano &lt;file&gt;</b>	open the nano text editor for the <file>
<b>rm &lt;file&gt;</b>	remove the <file>
<b>cp &lt;src&gt; &lt;dst&gt;</b>	copy the file <src> to <dst>
<b>file &lt;file&gt;</b>	view information about the <file>

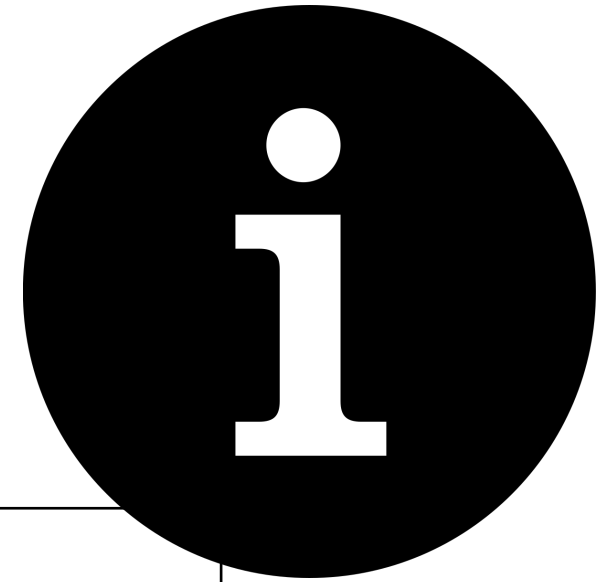


# System Commands

<b>whoami</b>	print current username
<b>hostname</b>	print hostname
<b>ipconfig</b> <b>ip addr show</b>	print network information
<b>ping &lt;dst&gt;</b>	test connectivity by sending an icmp echo request to <dst>
<b>which &lt;command&gt;</b>	print full path of <command>

# Manpages

- Linux includes built in help files called manual pages (or manpages)
- These pages provide guidance on the syntax and usage of commands.



<b>man &lt;topic&gt;</b>	display manual page about <topic>
<b>apropos &lt;topic&gt;</b>	search manual pages for <topic>
<b>whatis &lt;topic&gt;</b>	display single-line about topic

# Additional Commands

<b>history</b>	show a list of previous commands
<b>apt-get install &lt;pkg&gt;</b>	install additional software package <pkg>
<b>wget &lt;url/file&gt;</b>	download <file> from <url>
<b>clear</b>	clear the terminal screen

# Operators

>	redirects output	echo foo > bar
	pipes output of one command to another command	ls -al   grep flag
&	runs command in background; returns to command line	sleep 10 &
;	executes commands sequentially	sleep 1; echo a; sleep 2; echo b