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Try GraphiteThe macOS Terminal provides a command-line interface that can greatly enhance productivity for developers. Understanding and utilizing the right terminal commands that developers typically use in the
macOS environment. Navigating the file systemCommandDescriptionpwdPrint the current directory to directory name.cd .. Go up one
directory level.cd ~ or cdGo to the home directory_nameCreate a new directo
dir2Copy directory dir1 to dir2; create dir2 if it doesn't exist.mv old name new name.Working with filesCommandDescriptiontouch file name.more file name.mor
one screen at a time.less file nameOpen file
processes and system stats.htop (if installed) An interactive process viewer (not installed by default).ps auxShow detailed status of all current processes.kill pidKill a process in the current processes named process in the current processes.kill pidKill a process in the current processes named process.
directory. Network utilities Command Description ping host Check the network connect to host using FTP. File user@host. path Securely copy file to host under path. ftp host Connect to host using FTP. File
permissionsCommandDescriptionchmod permissions (e.g., chmod 755 file name to group of file name to group. MiscellaneousCommandDescriptionman commandDisplay the manual for
command.echo "text"Print text to the terminal.dateShow the current date and time.calShow the month's calendar.uptimeShow how long the system has been running.alias new='commands'Create an alias new that executes commands. This cheat sheet should serve as a quick reference for macOS terminal commands, helping developers to navigate
and utilize their Mac systems more effectively. Whether you're a beginner looking to learn the basics or an experienced developer needing a quick refresher, these commands are essential for your daily development tasks. Apple's macOS is a POSIX-compliant UNIX operating system designed to run on Mac computers. The system features access to
the command-line interface through the native Terminal app or third-party terminal emulators. While many Mac terminal commands are similar to Linux commands are similar to Linux commands are similar to Linux commands. Mac terminal emulators. While many Mac terminal commands are similar to Linux commands.
alongside a downloadable PDF cheat sheet for easy reference. Prerequisites A system running macOS. Access to the commands line/terminal. Note: Since both macOS and Linux are compatible with UNIX applications, most commands listed in this overview have their Linux equivalents. While the commands produce the same results in both systems.
certain functionalities may differ. Follow the links throughout the article to read Linux tutorials for each command output, and finding help. Read more about those commands in the sections below. Use the sudo command to
authenticate as an administrator: sudo [command] [arguments] ExampleRemove a directory the current user does not own: sudo rm -rf testdir There are two command output in macOS: Use the | symbol to pipe the command output as an argument to another command: [command1] | [command2] ExampleUse the wo
command to count the number of words in the output: echo "one two three" | wc -w Prevent the output of the echo command rom showing in the standard output with the echo command rom showing in the standard output with the echo command rom showing in the standard output with the echo command rom showing in the standard output.
commands. See the list of the commands you previously used by typing: history -[number-of-items] ExampleSee the last five entries: history -[number-of-items] ExampleExecute the entry
number 1009: !1009 Execute the last history entry (the previous command): !! Mac terminal comes with built-in help features. You can access command-line help in two ways: Adding the --help option displays a summary of the command: sudo --help A detailed
overview of the command: man [command] Exit the current terminal session: exit Use the commands listed in the following sections to manipulate the files on your system. The commands cover all the basic file management operations, such as creating, modifying, and organizing the files. Create an empty file: touch [filename] ExampleCreate a file
named test.txt: touch test.txt: touch test.txt Open any file on the system: open [filename] If the terminal cannot open the file in a separate window. ExampleOpen an image on your system: open pnap.png Below is the list of the commands and options for viewing files in macOS: The cat command prints the
contents of the file to the standard output: cat [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the contents of the file with the head command: head [filename] ExampleOutput the file with the head command: head [filename] ExampleOutput the file with the head command: head [filename] ExampleOutput the file with the head command [filename] ExampleOutput the head [
-n [number] [filename] ExamplePrint the first three lines of the /etc/paths file: head -n 3 /etc/paths macOS comes with two preinstalled command-line text editor by typing: [text-editor-command] [filename] ExampleOpen the file named test.txt in Nano: nano test.txt Use the >> symbols to append
content to a text file: echo "[text]" >> [path-to-file]/[filename] ExampleAdd the words "This is a test file" >> test.txt You can also append the contents of an entire file to another file: cat [filename] Overwrite the contents of a file from the command line by using the >
symbol. echo "[text]" > [path-to-file]/[filename] > [path-to-file]/[filename] Use the cp command to copy files in the Mac terminal. The basic syntax for copying a file is: cp [path-to-file] [destination-path] ExampleCopy
test.txt to the testdir directory located in the home directory: cp test.txt ~/testdir Other capabilities of the cp command include: Create a copy of a file in the same directory and change the filename] [new-filename] [new-filenam
 with quotation marks: cp "[spaced filename]" [destination-path] Copy multiple files to the same location: cp [file1] [file2] [file3] [destination-path] The mv command moves the file to another location. The basic mv syntax is: mv [path-
to-file] [destination-path] ExampleMove the test.txt file to the home directory: mv test.txt ~ Use mv to perform several more advanced actions, such as: mv [filename] [new-filename] [new
the files with the same extension at once: mv *.[extension] [destination-path] ExampleMove all the YAML files to the testdir directory: mv *.yaml ~/testdir Use the rm command to delete files from the system: rm [filename] Add the -i option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option: rm -f
[filename] Remove multiple files at the same time: rm [file1] [file2] [file3] The sections below present the most command for working directory with the pwd command helps the directory tree navigation in macOS. The following is the basic
syntax for the command: cd [directory-path] If the user does not specify the path, cd opens the home directory two levels above: cd ... View the contents
of a directory with the ls command: ls Useful ls options include: See all directories and files, including the ones that are hidden: ls -a View the list of directories by size: ls -S View the list in multiple columns: ls -C Note: Combine the options for
more views. For example, to see all the files in a detailed list, type:ls -la Use the cp command with the -r option to copy directory contents rather than the directory itself, use the ditto command: ditto [directory] [destination-path] ExampleCopy the testdir directory itself, use the directory itself,
path] The mv command moves the directory to another directory and the -r option: rm -r [directory] Mac terminal allows users to access information to force-remove all the files and sub-directories: rm -rf [directory] Mac terminal allows users to access information to force-remove all the files and sub-directory.
 about file and directory sizes and the available storage space. The sections below list the commands related to storage monitoring. The du command outputs the amount of space utilized by files and subdirectories in the current directory; du Useful du options include: -s provides an entry for specific files: du -s [file1] [file2] -h formats the output into a
 human-readable format: du -h -k displays memory in kilobytes, -m shows megabytes, and -g shows gigabytes. du -k ExampleDisplay memory in megabytes and pipe that output to the sort command to display the free disk space of the system. df -h The -h flag
 shows the values using the powers of 1024. To change the values to the powers of 1000, use the -H flag: df -H Managing permissions in the Mac terminal includes viewing and changing access privileges related to specific files and directories and changing the item ownership. The following sections explain permission management in more detail.
View the permissions related to a specific file by using the -l option and providing the filename as the argument: ls -ld [directory-path] If no directory path is specified, the command displays the permissions for the current working
directory. Change read, write, and execute privileges of a file with the chmod command. The syntax for changing file permissions is: chmod [number] is a three-digit number in which digits represent user, group, and owner permissions. The number is a sum of all the permissions (read, write, and execute) given to the user,
group, and owner. The numerical values of the permissions are: read has a value of 2. execute has a value of 3. execute has a value of 4. write has a value of 4. write has a value of 5. execute has a value of 6. Example Change the permissions of the test.txt so that only the user can read, write, and execute it: chmod 700 test.txt Use the -R option to change directory permissions: chmod -R
 [number] [directory] Change which user owns the file by using the following syntax: chown [username]:[group] [filename] To change directory ownership, add the -R flag. chown -R [username]:[group] [directory-path] Monitoring processes helps the user get a better picture of resource consumption on the machine and troubleshoot potential issues
Read this section to learn how to list, find, and stop running processes on a Mac machine. List the currently running processes sorted by PID (Process ID) with the ps command: ps -ax To see more detailed process list that updates in
real time, use the top command: top By default, top refreshes the view every second. Set a custom refresh interval by typing: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -s [number-of-seconds] ExampleRefresh top -s [numb
process by piping the output of the ps command to grep: ps -ax | grep [process-name-or-PID] Use the kill command: killall [process-name] Mac terminal supports many networking options, such as viewing and configuring the local network,
 connecting to remote computers, etc. The sections below explain how to perform the most common network operations. Test if a remote host is reachable on the network with the ping command to view a list of devices on the local network, with their IP and MAC addresses: arp -a View the path of
the packets from the machine to the destination with the traceroute command: traceroute [hostname-or-IP-address] Display the connected network adapter, pass its name as an argument to the command: ifconfig [network-adapter-name] The curl command allows data transfers to and
from remote servers. Use curl to download a file to your machine by using the -O option and passing the full URL as an argument: curl -O [URL]/[filename] Use the following syntax to establish an SSH connection with a remote server: ssh [username]@[hostname-or-IP-address] When connecting to a remote host for the first time, you may need to
generate an SSH key: ssh-keygen After generating the key, copy it to the remote host: ssh-copy-id -i [path-to-PUB-key] [username]@[hostname-or-IP-address] Managing application execution parameters with environment variables is an important command-line functionality. Learn how to view and create variables in the following sections. Display the
list of all the variables on the system with the printery command: printery command: export [variable-name]=[variable-value] Create a new variable on the system with the printery command: export [variable-name] (variable-value)
Note: Variables created in this way will exist only for the duration of the session. To learn how to create permanent variables and learn more about environment variables and learn more about envir
directory: find [directory] -name "filename]" Example Search for test.txt "Use grep to search for test.txt" Use grep to search for test.txt Use grep to search for test.txt in the testing directory: find testing -name "test.txt" Use grep to search for test.txt in the testing directory: find testing -name "test.txt" Use grep to search for test.txt in the testing directory: find testing -name "test.txt" Use grep to search for text.txt in the testing directory: find testing -name "test.txt" Use grep to search for text.txt in the testing directory: find testing -name "test.txt" Use grep to search for text.txt in the testing directory: find testing -name "test.txt" Use grep to search for text.txt in the testing directory: find testing -name "test.txt" Use grep to search for text.txt in the testing directory: find text.
command output by piping the output to grep: [command] | grep "[text]" To search for text across the files in a directory, use the following syntax: grep -rl "[text]" [directory] Homebrew is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the list of
the most common Homebrew operations. Below are the operations you can perform on Homebrew formula from receiving an update: brew upgrade [formula] Prevent a formula from receiving an update brew upgrade a specific formula] Prevent a formula from receiving an update brew upgrade [formula] Prevent a formula from receiving an update brew upgrade a specific formula]
brew install [formula] Remove a formula From the system: brew uninstall [formula] Learn more about the state of your homebrew formulae currently installed on the system: brew list --formula View a list of the currently installed casks: brew list --cask Show dependency packages
for a specified formula: brew deps [formula] Display outdated formulae on the system: brew outdated --cask Troubleshoot potential problems with Homebrew with the following commands: Execute the doctor subcommand: brew doctor Access the help resources: brew help Clean the system from outdated packages and stale
lock files: brew cleanup The following is a list of useful terminal commands for maintaining your macOS system: caffeinate Check for system updates: softwareupdate -l sudo softwareupd
 ~/Library/Mobile\ Documents/com~apple~CloudDocs/ sudo shutdown -r now su
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the Download the macOS Cheat Sheet button below. Conclusion This Mac terminal guide listed all the important commands for navigating the terminal and performing the basic file, directory, and network management functions. The guide also provided a PDF cheat sheet with the same commands on one easy-to-navigate page for quicker
reference. Was this article helpful? Apple's macOS is a POSIX-compliant UNIX operating system designed to run on Mac computers. The system features access to the command-line interface through the native Terminal app or third-party terminal emulators. While many Mac terminal commands are similar to Linux commands, macOS also features
system-specific syntax designed to help Mac users manage their hardware and software. This article provides a comprehensive list of Mac terminal commands line/terminal. Note: Since both macOS and Linux are compatible
with UNIX applications, most commands listed in this overview have their Linux equivalents. While the commands produce the same results in both systems, certain functionalities may differ. Follow the links throughout the article to read Linux tutorials for each commands for the Mac terminal include utilities for obtaining
administrative privileges, manipulating the command output, and finding help. Read more about those command [arguments] ExampleRemove a directory the current user does not own: sudo rm -rf testdir There are two common scenarios for
forwarding command output in macOS: Use the | symbol to pipe the command output as an argument to another command? [command2] ExampleUse the wc command from showing in the standard output: [command] >
/dev/null Print text to standard output with the echo commands. See the list of the commands you previously used by typing: history Helpful ways in which you can use the command history include: Limit the number of
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two ways: Adding the --help option displays a summary of the command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the help summary for the sudo command: sudo --help ExampleRead the sudo --help Exam
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 file in a separate window. ExampleOpen an image on your system: open pnap.png Below is the list of the commands and options for viewing files in macOS: The cat command prints the contents of the /etc/paths file: cat /etc/paths Show the file's contents one screen at a time
 using the less command: less [filename] Print the first ten lines of the file with the head command: head -n [number] [filename] ExamplePrint the first three lines of the /etc/paths file: head -n 3 /etc/paths macOS comes with two preinstalled command-line editors, Nano
and Vim. Open the file in a command-line text editor by typing: [text-editor-command] [filename] ExampleOpen the file named test.txt in Nano: nano test.txt in N
can also append the contents of an entire file to another file; cat [filename] >> [path-to-destination-file]/[filename] >> [path-to-destination-file]/[filename] the contents of a file from the command line by using cat, you can replace the entire file contents with another file:
cat [filename] > [path-to-file]/[filename] Use the cp command to copy files in the Mac terminal. The basic syntax for copying a file is: cp [path-to-file] [destination-path] ExampleCopy test.txt to the testdir directory located in the home directory located in the same
directory: cp [filename] [new-filename] [new-filename] [destination-path]/[new-filename] [destination-path] [file2] [file3] [destination-path] See the warning
if completing the operation would overwrite an already existing file: cp -i [filename] [destination-path] The mv command moves the file to another location. The basic mv syntax is: mv [path-to-file] [destination-path] ExampleMove the test.txt file to the home directory: mv test.txt ~ Use mv to perform several more advanced actions, such as: mv
 Use the rm command to delete files from the system: rm [filename] Add the -i option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option: rm [filename] Remove multiple files at the same time: rm [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Remove multiple files at the same time: rm [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to receive a deletion confirmation message: rm -i [filename] Force remove the file with the -f option to remove the file with the -f option to receive a deletion confirmation message and the file with the -f option to remove the file with the -f option to remove the f
in a macOS terminal. Display the name of the current working directory with the pwd command: pwd The cd co
cd ~ You can also use the command to gain guick access to: The root directory of the drive: cd / Previously browsed directory with the ls command: ls Useful ls options include: See all directories and files, including the ones that are hidden: ls -a View the list of directories
and files with more details, including the file size, ownership, and permissions: ls -I Sort files and directories by size: ls -S View the list in multiple columns: ls -C Note: Combine the options for more views. For example, to see all the files in a detailed list, type: ls -la Use the cp command with the -r option to copy directories: cp -r [directory] [destination-
path] ExampleCopy the testdir directory to the home directory to another directory to another directory itself, use the directory itself itself in the directory itself.
  with the rm command and the -r option: rm -r [directory] Add the -f option to force-remove all the files and sub-directories: rm -rf [directory] Mac terminal allows users to access information about file and directory sizes and the available storage space. The sections below list the commands related to storage monitoring. The du command outputs the
amount of space utilized by files and subdirectories in the current directory: du Useful du options include: -s provides an entry for specific files: du -s [file1] [file2] -h formats the output into a human-readable format: du -h -k displays memory in kilobytes, -m shows megabytes, and -g shows gigabytes. du -k ExampleDisplay memory in megabytes and
 pipe that output to the sort command to display the directories and files in descending order according to their size: du -m | sort -nr Display the free disk space of the system. df -H Managing permissions in the Mac terminal
includes viewing and changing access privileges related to specific files and directories and changing the item ownership. The following sections explain permissions related to a specific file by using the -l option and providing the filename as the argument: ls -l [filename] Example: View the
permissions of test.txt: ls -l test.txt: ls -l test.txt To view directory permissions, add the -d option: ls -ld [directory-path] If no directory permissions for the current working directory permissions is: chmod [number]
 [filename] The [number] is a three-digit number in which digits represent user, group, and owner permissions. The number is a sum of all the permissions are: read has a value of 2. execute has a value of 2. execute has a value of 1. no permission has a
 value of0. Example Change the permissions of the test.txt so that only the user can read, write, and execute it: chmod 700 test.txt Use the -R option to change directory permissions: chmod -R [number] [directory] Change which user owns the file by using the following syntax: chown [username]:[group] [filename] To change directory ownership, add
the -R flag. chown -R [username]:[group] [directory-path] Monitoring processes helps the user get a better picture of resource consumption on the machine and troubleshoot potential issues. Read this section to learn how to list, find, and stop running processes on a Mac machine. List the currently running processes sorted by PID (Process ID) with
the ps command: ps -ax To see more details about each process, including the CPU and memory consumption, enter the following command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process, including the CPU and memory consumption, enter the following command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates in real time, use the top command: ps aux For a detailed process list that updates list 
 Example Refresh top data every 10 seconds: top -s 10 Adjust the view in top to see the data sorted by memory usage: top -o cpu Search for a specific process by piping the output of the ps command to grep: ps -ax | grep [process-name-or-PID] Use the kill command to guit a misbehaving process by
entering its PID: kill [PID] Quit a process by its name with the killall command: killall (process-name) Mac terminal supports many network operations, such as viewing and configuring the local network operations. Test if a remote host is
reachable on the network with the ping command: ping [hostname-or-IP-address] Use the arp command to view a list of devices on the local network, with their IP and MAC addresses: arp -a View the path of the packets from the machine to the destination with their IP and MAC addresses: arp -a View the path of the packets from the machine to the destination with their IP and MAC addresses: arp -a View the path of the packets from the machine to the destination with their IP and MAC addresses: arp -a View the path of the packets from the machine to the destination with their IP and MAC addresses.
network adapters with the ifconfig Command. ifconfig To view a specific adapter, pass its name as an argument to the command affile to your machine by using the -O option and passing the full URL as an argument: curl -O
[URL]/[filename] Use the following syntax to establish an SSH connection with a remote server: ssh [username]@[hostname-or-IP-address] When connecting to a remote host: ssh-copy-id -i [path-to-PUB-key] [username]@[hostname-or-IP-address] when connecting to a remote host for the first time, you may need to generate an SSH key: ssh-keygen After generating the key, copy it to the remote host: ssh-copy-id -i [path-to-PUB-key] [username]@[hostname-or-IP-address] when connecting to a remote host for the first time, you may need to generate an SSH key: ssh-keygen After generating the key, copy it to the remote host for the first time, you may need to generate an SSH key: ssh-keygen After generating the key, copy it to the remote host for the first time, you may need to generate an SSH key: ssh-keygen After generating the key, copy it to the remote host for the first time, you may need to generate an SSH key: ssh-keygen After generating the key.
or-IP-address] Managing application execution parameters with environment variables in the following sections. Display the list of all the variables on the system with the printenv command: printenv use echo to print the value of a specific variable: echo $[variable on the system with the printenv use and create variables in the following sections. Display the list of all the variables on the system with the printenv use and create variables in the following sections.
Add a new binary path to the PATH variable: export PATH=$PATH:[path-to-executable] Create a new variable sand learn more
about environment variable management in macOS, read How to Set Environment Variables in macOS. The following are the Mac terminal commands for finding files and content within files: Find a file within a directory: find testing -name "test.txt" Use the
 wildcard character * to broaden your search. Example Look for all the TXT files in the testing directory: find testing -name "*.txt" Use grep to search for text within a file: grep "[text]" To search for text across the files in a directory, use the following.
syntax: grep -rl "[text]" [directory] Homebrew is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the default package managers, such as APT, RPM, etc. Below is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the default package managers, such as APT, RPM, etc. Below is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the default package managers, such as APT, RPM, etc. Below is the default package managers, such as APT, RPM, etc. Below is the default package managers, such as APT, RPM, etc. Below is the default package managers, such as APT, RPM, etc. Below is the default package managers for macOS. It provides Mac with functional formal for macOS and the default package managers for macOS and the default 
 upgrade Upgrade a specific formula: brew upgrade [formula] Prevent a formula from receiving an update: brew uninstall [formula] Remove a formula from the system: brew uninstall [formula] Learn more about the state of your homebrew
 formulae and casks by using the commands below: Display a list of the formulae currently installed on the system: brew list --formula View a list of the currently installed casks: brew list --formulae currently installed on the system: brew outdated
cask Troubleshoot potential problems with Homebrew with the following commands: Execute the doctor subcommands for maintaining your macOS system: caffeinate Check
for system updates: softwareupdate -i -a -R killall Dock defaults write com.apple.dock ResetLaunchPad -bool true; killall Dock sudo dscacheutil -flushcache; sudo shutdown -r now sudo shutdown -r now Mac terminal has many useful
keyboard shortcuts for managing terminal windows and navigating the terminal. Below is the list of the most helpful shortcuts, divided into categories for easier browsing. ShortcutDescriptionCommand - WClose the tab.Option - Shift - Command
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  - Shift - Command - ?Open the man pages. We created a handy Mac terminal commands cheat sheet as a one-page reference for all the essential macOS commands. Save the PDFlist of macOS commands by clicking the Download the macOS commands for navigating
the terminal and performing the basic file, directory, and network management functions. The guide also provided a PDF cheat sheet with the same commands on one easy-to-navigate page for quicker reference. Was this article helpful? CommandAction/Top level directory. Current directory. Parent directory and network management functions. The guide also provided a PDF cheat sheet with the same commandAction/Top level directory. Parent directory and network management functions.
command with the security privilege of a super usernano [file]Opens the Terminal editoropen [file]Opens a file[command] -hGet help about a commandMantionTabAuto-Complete file and folder namesCtrl + AGo to the beginning of the line that you are currently typing onCtrl + EGo to the
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directorycd ...Move up to the parent directorycd../...Move up two levels CommandActionlsDisplay the name of files and subdirectories in the directorycd ...f. and ..ls -1Output the list of files in one entry per line formatls -FDisplay a / immediately after each path that is a
directory, * after executable programs or scripts, and @ after a symbolic linkls -SSort files or entries by sizels -lList in a long format. Includes file mode, owner and group name, date and time file was modified (most recent first)ls
lhLong listing with human readable file sizes in KB, MB, or GBls -loList the file names with size, owner, and flagsls -laList detailed directory contents, including hidden files in a directorydu -sDisplay an entry for each specified filedf
hCalculate your system's free disk space in powers of 1,000 CommandActionmkdir Create new folder at oncemkdir "Create a folder with a space in the filenamermdir Delete a folder (only works on empty folders)rm -R Delete a folder and its
contentstouch Create a new file without any extensioncp Copy a file to the foldercp Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the folder and rename the copied filecp -R Copy a file to the 
folderditto -V [folder path][new folder]Copy the contents of a folder to new folder. In here "-V" print a line of status for every file copiedrm Delete a file only when you give confirmationrm -f Force removal without confirmationrm Delete a file only when you give confirmation -f Force removal without -f Force remova
Move/renamemv Move a file to the folder, possibly by overwriting an existing filemv -i Optional -i flag to warn you before overwriting the filemv *.png ~/Move all PNG files from current folder commands you've typed. Add a number to
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permission of a folder (and its contents) to 600chown: Change the ownership of a file to user and group. Add -R to include folder contents CommandActionps -axOutput currently running processes with %cpu
  %mem, page in, PID, and commandtopDisplay live information about currently running processestop -ocpu -s 5Display processes sorted by CPU usage, updating every 5 secondstop -o rsizeSort top by memory usagekill PIDQuit process with ID . You'll see PID as a column in the Activity Monitor CommandActionping Ping host and display statuswhois
Output whois info for a domaincurl -O Download file via HTTP, HTTPS, or FTPssh @Establish SSH connection to with user scp @:/remote/pathCopy to a remote arp -aView a list of all devices on your local network. It will show you the IP and MAC address of all the devices on your local network. It will show you the IP and MAC address of all the devices on your local network. It will show you the IP and MAC address of all the devices on your local network. It will show you the IP and MAC address of all the devices on your local network. It will show you the IP and MAC address of all the devices on your local network.
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you which shell you're using$echoTells the terminal to print something and show it to youecho $PATH >path.txtExport the path directories with executable filesecho $PATH >path.txtExpor
 current session CommandActionfind -name Find all files named inside . Use wildcards (*) to search for parts of filenamesgrep "" Output all occurrences of inside (add -i for case insensitivity) grep -rl "" Search for all files containing inside CommandActioncat Output the content of less Output the contents of using the less command that supports
 pagination and morehead Output the first 10 lines of > Appends the output of to > Direct the output of into You cant perform that action at this time. Apple's macOS is a POSIX-compliant UNIX operating system designed to run on Mac computers. The system features access to the command-line interface through the native Terminal app or third
party terminal emulators. While many Mac terminal commands are similar to Linux commands alongside a downloadable PDF cheat sheet for easy reference. Prerequisites
A system running macOS. Access to the command line/terminal. Note: Since both macOS and Linux are compatible with UNIX applications, most commands listed in this overview have their Linux equivalents. While the commands produce the same results in both systems, certain functionalities may differ. Follow the links throughout the article to
read Linux tutorials for each command. Basic commands for the Mac terminal include utilities for obtaining administrative privileges, manipulating the command output, and finding help. Read more about those commands in the sections below. Use the sudo command output, and finding help. Read more about those commands in the sections below.
a directory the current user does not own: sudo rm -rf testdir There are two command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: Use the | symbol to pipe the command output in macOS: 
 -w Prevent the output of the command from showing in the standard output: [command] > /dev/null Print text to standard output with the echo commands. See the list of the commands you previously used by typing: history
 Helpful ways in which you can use the command history include: Limit the number of displayed history entries: history -[number-of-items] ExampleExecute the entry number 1009: !1009 Execute the last history entry (the previous command): !!
Mac terminal comes with built-in help features. You can access command: sudo --help ExampleRead the help summary of the command: sudo --help A detailed overview of the command: man [command] Exit the current terminal session:
exit Use the commands listed in the following sections to manipulate the files on your system. The commands cover all the basic file management operations, such as creating, modifying, and organizing the files. Create an empty file: touch [filename] If the basic file management operations, such as creating, modifying, and organizing the files. Create an empty file: touch [filename] Example Create an empty file on the system: open [filename] If the basic file management operations, such as creating, modifying, and organizing the files.
 terminal cannot open the file, macOS detects the default application and opens the file in a separate window. ExampleOpen an image on your system: open pnap.png Below is the list of the commands and options for viewing files in macOS: The cat command prints the contents of the file to the standard output: cat [filename] ExampleOutput the
contents of the /etc/paths file: cat /etc/paths file: cat /etc/paths Show the file's contents one screen at a time using the less command: head [filename] Print the first ten lines of the /etc/paths file: cat /etc/paths
 file: head -n 3 /etc/paths macOS comes with two preinstalled command-line editors, Nano and Vim. Open the file in a command-line text tit Use the >> symbols to append content to a text file: echo "[text]" >> [path-to-file]/[filename]
Example Add the words "This is a test file" >> test.txt: echo "This is a test file" >> test.txt: echo "This is a test file" >> test.txt: echo "This is a test file" >> test.txt You can also append the contents of an entire file to another file; cat [filename] >> [path-to-destination-file]/[filename] Overwrite the contents of an entire file to another file to anothe
not exist, the system creates it. By using cat, you can replace the entire file contents with another file: cat [filename] > [path-to-file] [destination-path] ExampleCopy test.txt to the testdir directory located in the home directory: cp
test.txt ~/testdir Other capabilities of the cp command include: Create a copy of a file in the same directory: cp [filename] [destination-path]/[new-filename] [filename] [destination-path]/[new-filename] [filename] [fil
Copy multiple files to the same location: cp [file1] [file2] [file3] [destination-path] The mv command moves the file to another location. The basic mv syntax is: mv [path-to-file] [destination-path] ExampleMove the test.txt file to the
 home directory: my test.txt ~ Use my to perform several more advanced actions, such as: my [filename] [new-filename] [new-file
  [destination-path] ExampleMove all the YAML files to the testdir directory: mv *.yaml ~/testdir Use the rm command to delete files from the system: rm [filename] Add the -i option: rm -f [filename] Remove multiple files at the same time: rm [file1]
 [file2] [file3] The sections below present the most common commands for working with directory-path] If the user does
not specify the path, cd opens the home directory. Alternatively, to go to the home directory with the ls command: Is Useful ls options
 include: See all directories and files, including the ones that are hidden: ls -a View the list of directories by size: ls -S View the list in multiple columns: ls -C Note: Combine the options for more views. For example, to see all the files in a
detailed list, type:ls -la Use the cp command with the -r option to copy directory: cp -r (directory) [destination-path] The mv command moves the directory to the home director
another directory. The syntax is the same as with moving files: mv [directory] Add the -f option to force-remove all the files and sub-directories; rm -rf [directory] Mac terminal allows users to access information about file and directory sizes and the available
 storage space. The sections below list the commands related to storage monitoring. The du command outputs the amount of space utilized by files and subdirectories in the current directory: du Useful du options include: -s provides an entry for specific files: du -s [file1] [file2] -h formats the output into a human-readable format: du -h -k displays
memory in kilobytes, -m shows megabytes, and -g shows gigabytes and files in descending order according to their size: du -m | sort -nr Display the free disk space of the system. df -h The -h flag shows the values using the powers of 1024
To change the values to the powers of 1000, use the -H flag: df -H Managing permissions in the Mac terminal includes viewing and changing the item ownership. The following sections explain permission management in more detail. View the permissions related to a specific file by
using the -l option and providing the filename as the argument: ls -l [filename] Example: View the permissions of test.txt To view directory path is specified, the command displays the permissions for the current working directory. Change read, write, and execute
privileges of a file with the chmod command. The syntax for changing file permissions is: chmod [number] is a three-digit number in which digits represent user, group, and owner permissions. The number is a sum of all the permissions (read, write, and execute) given to the user, group, and owner permissions. The number is a sum of all the permissions (read, write, and execute) given to the user, group, and owner permissions.
          permissions are: read has a value of 4. write has a value of 2. execute has a value of 1. no permissionhas a value of 0. Example Change the permissions of the test.txt use the -R option to change directory permissions: chmod -R [number] [directory] Change which user owns the
file by using the following syntax: chown [username]:[group] [filename] To change directory ownership, add the -R flag. chown -R [username]:[group] [directory-path] Monitoring processes helps the user get a better picture of resource consumption on the machine and troubleshoot potential issues. Read this section to learn how to list, find, and stop
running processes on a Mac machine. List the currently running processes sorted by PID (Process ID) with the ps command: ps aux For a detailed process list that updates in real time, use the top command: top By default, top
refreshes the view every second. Set a custom refresh interval by typing: top -s [number-of-seconds] ExampleRefresh top data every 10 seconds: top -o rsize To sort the processes by CPU, type: top -o cpu Search for a specific process by piping the output of the ps command to
grep: ps -ax | grep [process-name-or-PID] Use the kill command: killall [process-name] Mac terminal supports many networking options, such as viewing and configuring the local network, connecting to remote computers, etc. The sections
below explain how to perform the most common network operations. Test if a remote host is reachable on the network with their IP and MAC addresses: arp -a View the path of the packets from the machine to the destination
with the traceroute command: traceroute [hostname-or-IP-address] Display the connected network adapter, pass its name as an argument to the command: ifconfig [network-adapter-name] The curl command allows data transfers to and from remote servers. Use curl to download a file to
your machine by using the -O option and passing the full URL as an argument: curl -O [URL]/[filename] Use the following syntax to establish an SSH connection with a remote server: ssh [username]@[hostname-or-IP-address] When connecting to a remote host for the first time, you may need to generate an SSH key: ssh-keygen After generating the
key, copy it to the remote host: ssh-copy-id -i [path-to-PUB-key] [username]@[hostname-or-IP-address] Managing application execution parameters with environment variables in the following sections. Display the list of all the variables on the system with the printenv
command: printenv Use echo to print the value of a specific variable: echo $[variable: export PATH=$PATH:[path-to-executable] Create a new variable created in this way will exist only for the
duration of the session. To learn how to create permanent variables and learn more about environment variables in macOS. The following are the Mac terminal commands for finding files and content within files: Find a file within a directory: find [directory] -name "[filename]" Example
Search for test.txt in the testing directory: find testing -name "test.txt" Use the wildcard character * to broaden your search. Example Look for all the TXT files in the testing directory: find testing -name "test.txt" Use grep to search for text within a file: grep "[text]" [filename] Find text in the command output by piping the output to grep: [command] |
grep "[text]" To search for text across the files in a directory, use the following syntax: grep -rl "[text]" [directory] Homebrew is the default package manager for macOS. It provides Mac with functionalities usually found in Linux package manager for macOS. It provides Mac with functionalities usually found in Linux package managers, such as APT, RPM, etc. Below is the list of the most common Homebrew operations. Below are the
operations you can perform on Homebrew formula from receiving an update: brew upgrade (formula) Remove a formula from the
system: brew uninstall [formula] Learn more about the state of your homebrew formulae and casks by using the commands below: Display a list of the currently installed casks: brew list --cask Show dependency packages for a specified formula: brew deps [formula]
Display outdated formulae on the system: brew outdated --cask Troubleshoot potential problems with the following commands: Execute the doctor subcommand: brew outdated --cask Troubleshoot potential problems with the following is a list
of useful terminal commands for maintaining your macOS system: caffeinate Check for system updates: softwareupdate -i -a -R killall Dock defaults write com.apple.dock ResetLaunchPad -bool true; killall Dock sudo dscacheutil -flushcache; sudo killall -HUP mDNSResponder cd ~/Library/Mobile\
Documents/com~apple~CloudDocs/ sudo shutdown -r now sudo shutdown -r now
Command - WClose the window.Command - TOpen a new tab.Command - WClose the tab.Option - Shift - Command - WClose t
beginning.Control - EMove the insertion point to the end.Control - UDelete the line.Control - Word. ShortcutDescriptionShift - Command - click the file path.Select the entire file path.Triple-click the
line.Select the entire line.Command - XCut the selection.Command - Frind text.Command - Copy the selection.Command - Frind text.Command - Frind text.Command
on/off.Command - double-click the URL.Open a URL.Command - Print.Command - Pri
the Download the macOS Cheat Sheetbutton below. Conclusion This Mac terminal guide listed all the important commands for navigating the terminal and performing the basic file, directory, and network management functions. The guide also provided a PDF cheat sheet with the same commands on one easy-to-navigate page for guicker
reference. Was this article helpful? When it comes to learning how to code, you might be worried about mastering the command line. Not because it is intimidating. It seems like theres so much you have to know! Thats why I put together a Unix commands cheat sheet of
regularly-used commands in the Unix command line (see below). This Unix/Mac terminal commands cheat sheet isnt meant to be some visually appealing infographic, filled with fancy gradients and sexy charts. Instead, my Unix commands cheat sheet has been created to act as a quick reference guide. You can use it as a way to memorize the basic
commands. The only way to ever become comfortable using the command line is to memorize, memoriz
for your Mac terminal. Embed this infographic on your site Please include attribution to learn to code with me when using this graphic.
```