Using Bash on Mac Terminal

Learning Objectives

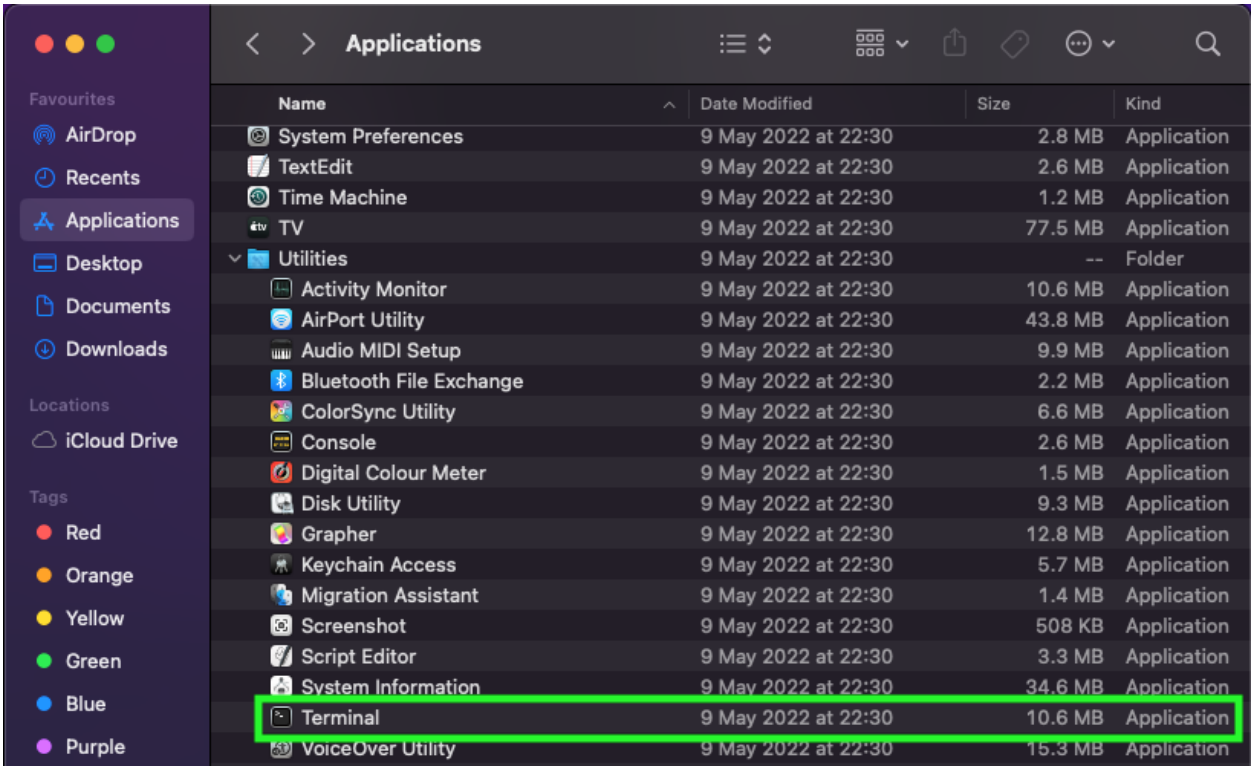
- Learners will understand how to open the command line - terminal on Mac.
- Learners will become familiar with the most common commands.

Mac Terminal

The Terminal on Mac can be opened in one of three ways: Finder, Launch Pad and Spotlight.

Finder

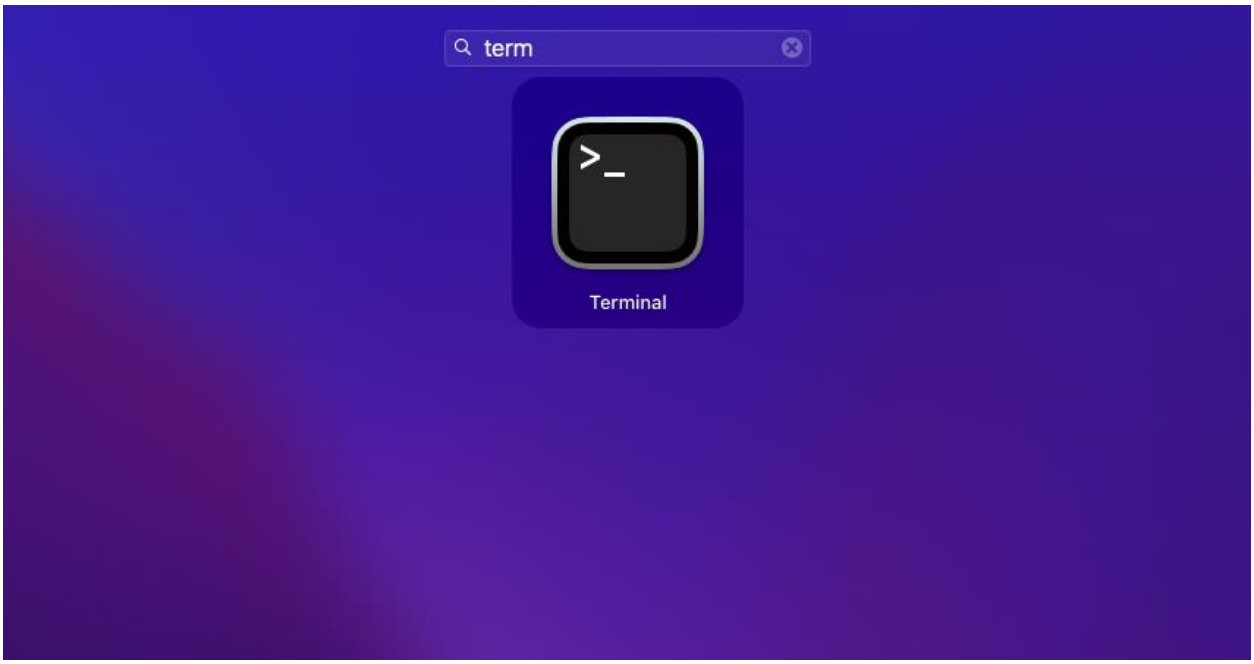
1. Scroll to the bottom of your desktop and click on the **Finder** icon.
2. Click on **Applications** on the left-hand side of the screen.
3. Locate the folder called **Utilities** and expand it.
4. The **Terminal** app should be visible, select it to open.



Launch Pad

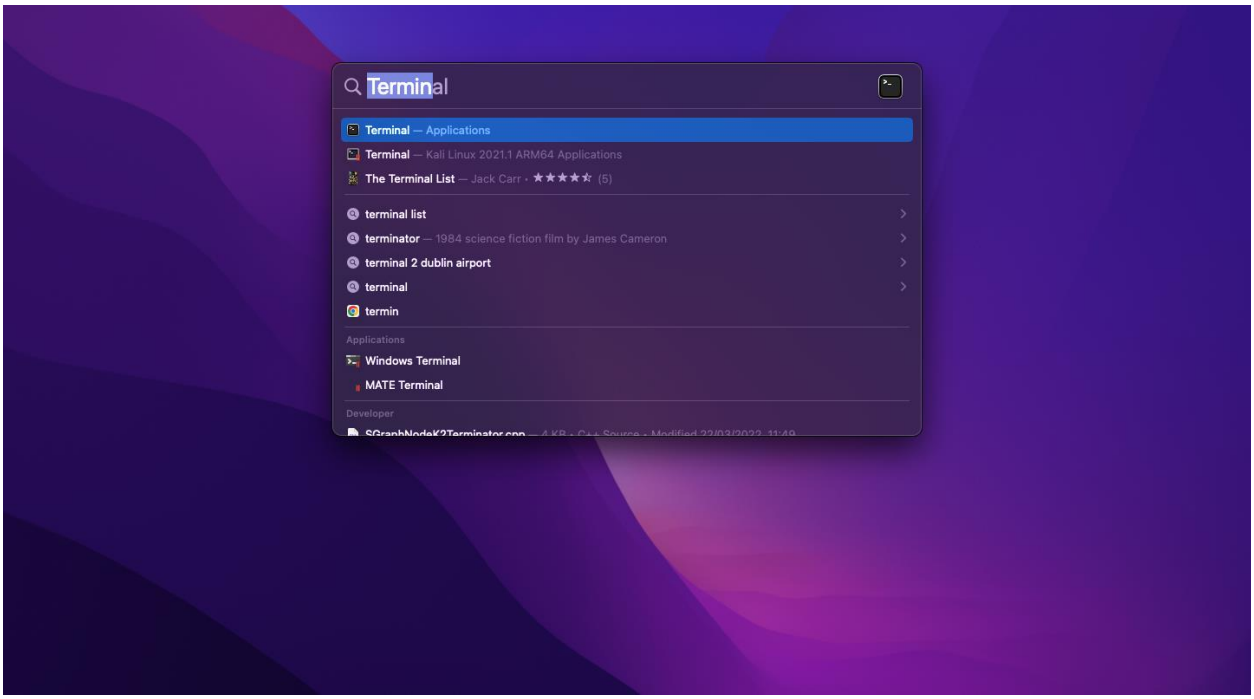
1. Press the **F4** command.
2. Launch Pad view appears onscreen.

3. Select the search bar and type **Term** (short for **Terminal**).
4. The **Terminal** icon appears onscreen.
5. Select the icon to open.



Spotlight

1. Press the command key and the space bar.
2. The Spotlight modal appears.
3. Type in the word **Terminal** or **Term** for short.
4. The **Terminal** icon appears onscreen.
5. Select the icon to open the **Terminal**.



Bash commands

Bash provides a list of commands for navigating through files, viewing the contents of files, and edit features for changing or updating the contents of a file. Below is a list of the most common commands:

Command	Used for
cd	Change Directory
ls	List command used for showing the content of a directory.
rm	Remove command used for removing a file or a directory
mv	Used to move files or folders to another location
touch	Allows creating of a new empty file or to update a timestamp on a file
cp	Used to make a copy of a file or folder
mkdir	Make a new directory
pwd	Print work directory, shows the current location in the shell
cat	Allows reading or concatenation of a file
less	Displays the contents of a file one page at a time.

Command	Used for
grep	Global regular expression, allows for searching contents of files or folders

Flags

Every bash command has flags for changing the output of the command itself. For example, the **ls** command prints out the list of contents inside a directory. If we wanted to show the list in a different view, we simply need to add a flag such as **-l**.

When the flag of **-l** is passed, it will show the output differently:

Man Pages

When first learning commands from bash, it can feel a bit daunting. Luckily, every command has its manual (or man pages for short). The man page lists all the flags and options that a particular command has to offer. Again, let's use the **ls** command to demonstrate this. Type the following:

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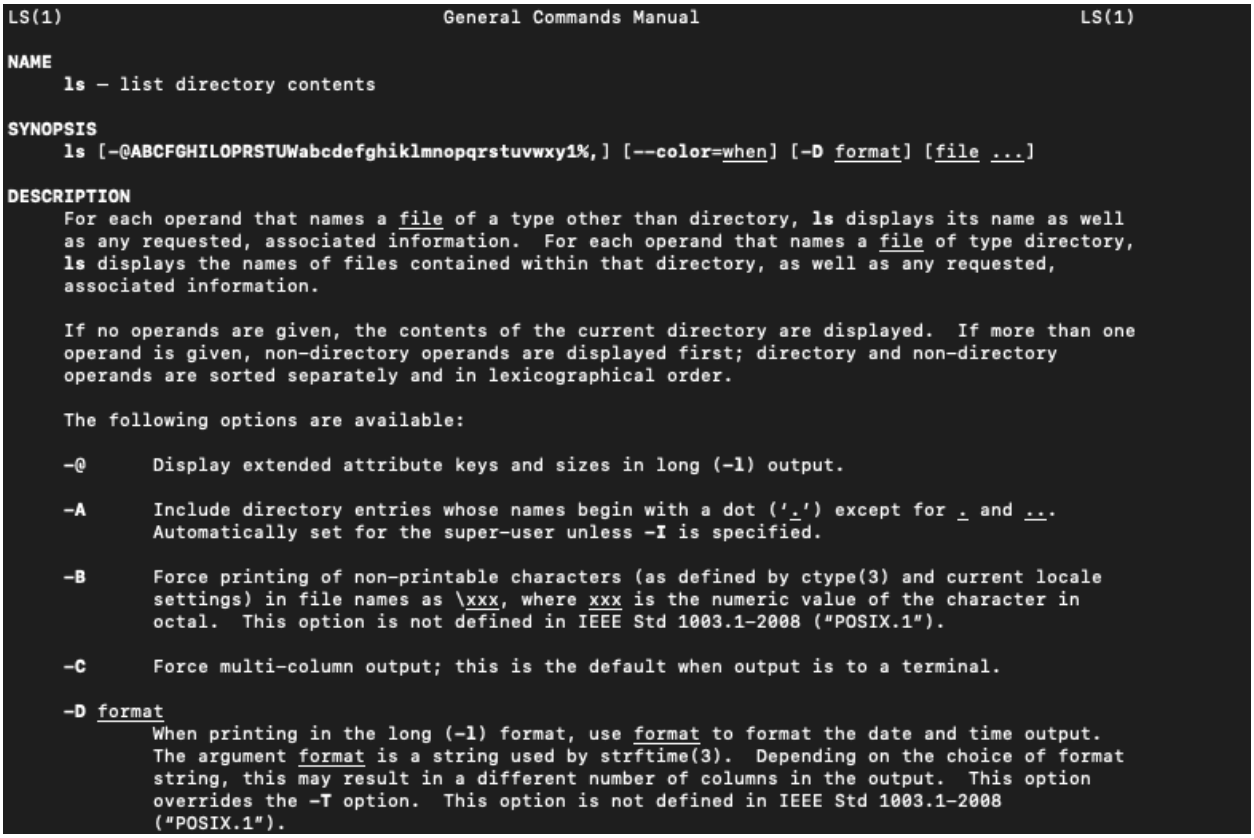
man ls



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LS(1)                          General Commands Manual                          LS(1)

NAME
     ls – list directory contents

SYNOPSIS
     ls [-@ABCFGHILOPRSTUWabcdefghiklmnopqrstuvwxy1%,] [--color=when] [-D format] [file ...]

DESCRIPTION
     For each operand that names a file of a type other than directory, ls displays its name as well
     as any requested, associated information.  For each operand that names a file of type directory,
     ls displays the names of files contained within that directory, as well as any requested,
     associated information.

     If no operands are given, the contents of the current directory are displayed.  If more than one
     operand is given, non-directory operands are displayed first; directory and non-directory
     operands are sorted separately and in lexicographical order.

     The following options are available:

     -@      Display extended attribute keys and sizes in long (-l) output.

     -A      Include directory entries whose names begin with a dot ('.') except for . and ..
             Automatically set for the super-user unless -I is specified.

     -B      Force printing of non-printable characters (as defined by ctype(3) and current locale
             settings) in file names as \xxx, where xxx is the numeric value of the character in
             octal.  This option is not defined in IEEE Std 1003.1-2008 ("POSIX.1").

     -C      Force multi-column output; this is the default when output is to a terminal.

     -D format
             When printing in the long (-l) format, use format to format the date and time output.
             The argument format is a string used by strftime(3).  Depending on the choice of format
             string, this may result in a different number of columns in the output.  This option
             overrides the -T option.  This option is not defined in IEEE Std 1003.1-2008
             ("POSIX.1").
```

The man pages are a great way to recall the different flags that are available and a great tool in your arsenal to becoming more fluent in bash.

Editing

There are many options for editing files in bash. The most common is usually VI or Vim. VI stands for visual editor. It's used for making edits and changes to a file and saving them. It's similar to what you may have used in applications like Word. VIM is a better version of VI with some improvements - hence its name: visual editor improved. Learning the commands in Vim will feel different from GUI applications, but once you practice, it will feel like second nature. Vim uses modes to determine the commands you can work with:

- Normal mode: Default mode
- Insert mode: Allows the contents of the files to be edited.
- Command line mode: Normal commands begin with **:**