Linux

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Introduction to Linux

Module 3: Files and Filesystems

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Introduction to Linux

Now you know how to navigate the file system and list directory contents, let's look at what we can do with files and file systems in more detail.

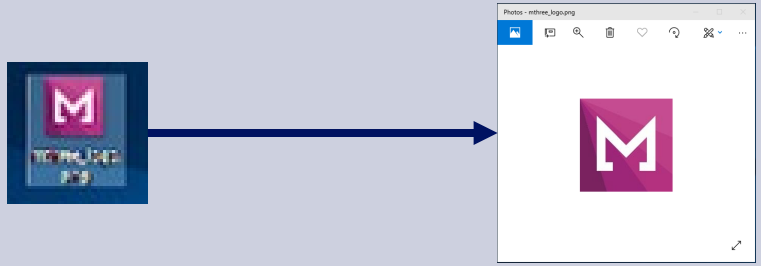
File Types

There are three types of files

- **Regular files** – Contain data, text or program instructions
- **Special files** – Provide access to hardware. For example printers, hard disks and other devices
- **Directories** – Stores special and regular files

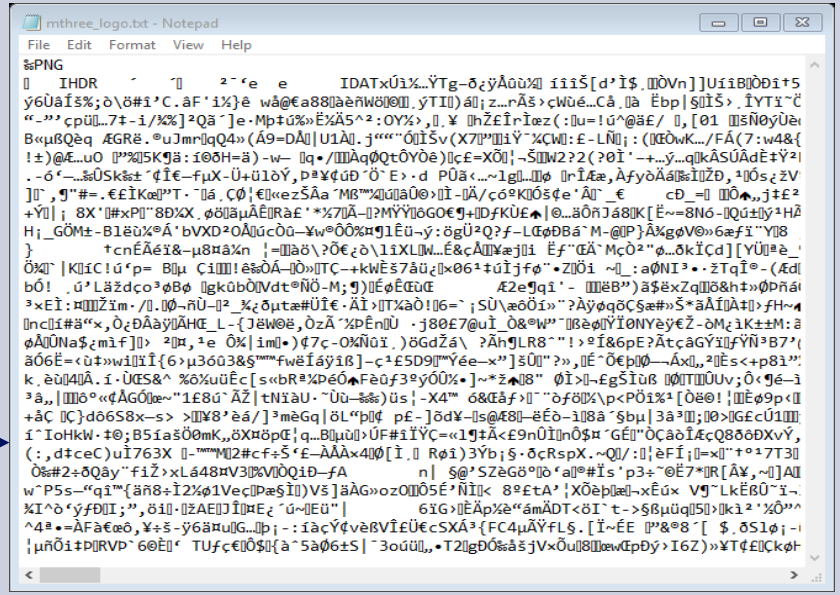
Filename.extension doesn't tell you anything about the contents

- eg: dave.txt could contain text about Dave, jpeg encoded image, prime numbers
- eg: *.txt files can be opened in Excel



mthree_logo.png opens in Photos application.

Can open *mthree_logo.png* in Notepad.



Creating files and directories

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As part of any basic Linux operation, you will want to know how to create files and directories.

touch

Touch will update the timestamps of a file to the current time (i.e., last modified time); if the file does not exist, it will create it at that time

You can create multiple files at the same time by simply listing them one after the other, e.g. touch filename1 filename2 filename 3

mkdir

“make directory” – this command run with the directory name after it will create the directory in your current location e.g. mkdir logs

You can also create a directory within a directory, e.g. mkdir logs/test (this will create both the logs directory and the test directory if they don’t exist)

Removing files and Directories

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Running commands to remove files and directories in Linux should be taken with care – there is no undo command or recycle bin to recover things from.

Command	Comments
rm filename	This will remove the file called filename in this example The rm command (without a specific option) cannot be used on directories as it only applies to files
rm filename filename2	As with touch you can remove multiple files in one line
rm *.log	You can also use wildcards such as * if you want to remove files that have something in common in their name – such as ending in .log
rm –r directory	This will allow you to remove the directory using the rm command and recursively go through and remove its contents
rm –rf directory	If you want to ignore all warnings – you can add in the –f option which will go through and remove everything regardless Be careful with wildcards here – running rm –rf * will remove everything!
rmdir directory	This version of the remove command will let you remove a directory without having to put the options with rm

Removing Files Continues

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The ‘rm’ command

- `rm -ri tempDir3`
- The use of the option “`i`” generates a prompt for the user to confirm that they want to remove the stated file

WARNING

There is no Recycle Bin in Linux.
Files deleted using ‘rm’ cannot be recovered!

Use this command with caution.

2 step delete: move □ wait □ delete

3 step delete: move □ compress □ wait □ delete

Find – how to search

Being able to search for a specific file across your server is an extremely useful tool to have.

Command	Comments
find /home –name *.jpg	This will search the /home directory for any files with .jpg extension
find . -name testfile.txt	This will search the current directory and subdirectories for a specific file called testfile.txt. Note here the use of the "." for the current and subdirectories under this location
find /home –iname test.txt	This will search for filenames ignoring the case
find / -type d –name logs	This will search from the root directory recursively for directories with the name logs
find / -user root –name test.txt	This will search for files owned by the user root called test.txt under the / directory
find / -cmin -60	This command will list all the files that have changed in the last 60mins