IT 1100: Introduction to Operating Systems

Chapter 17 Searching for Files

Don't forget the Finding Things Exercises in Canvas.

Textbook Time

There are a lot more options for find in the book than we will use. So don't feel overwhelmed. Just focus on the power that find has.

Commands

- locate find files by name. The locate command references an index compiled the night before, so the searches are very fast. The locate program performs a rapid database search of pathnames, and then outputs every name that matches a given substring.
 - The file has to be in the database in order for it to be found
 - example: locate bin/zip, can combine with grep to restrict rows shown
- The locate database is created by another program named updatedb. Usually, it is run periodically as a cron jobonce per day, if you create a file, it won't be detected by the locate command until this command has run.

Commands (find)

- find search for files with a specific criteria. More powerful but more complex than locate. The search is done real time, so searches may take longer.
 - More examples:
 - o find ~ -type f -name "*.JPG" -size +1M | wc -1 | #find by size, name
 - Can find by user, last modified time, permissions, more...

Commands (find)

- With find, you can also execute a particular action on the found file like so:
 - o find ~ -type f -name 'foo*' -ok ls -l '{}' ';' or
 o find ~ -name 'foo*' -exec rm -rf {} \;

Commands (xargs)

- xargs The xargs command in UNIX is a command line utility for building an execution pipeline from standard input. What does this mean??
 - · What if you want to search through a bunch of files for a string
 - o find . | xargs grep 'someline' VS. find . | grep 'someline'
 - Compare these two
 - \circ find ./foo -type f -name "*.txt" -exec rm {} \;
 - o find ./foo -type f -name "*.txt" | xargs rm
- touch change file times or create new file
- stat display file status

Examples

- locate /etc/res # will list files and directories in the /etc directory that start with res
- find /etc -type f # lists only files in the /etc directory that start with res

- \bullet [find /etc/res* -type d] # lists only directories in the /etc directory that start with res
- [find ~ -type f -name "*.jpg" -size +1M] # lists only files that end in .jpg and are greater than 1 MB in size
- find ~ -type f -name "*.jpg" -size +1M | xargs ls -1] # xargs takes the output of the find command and lists it in an [ls -1] format