Shell Scripting with Bash

Many Ways To Run Your Script

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Overview

- **Running code from a file**
- **The background and nohup**
- **Exec and redirection**
- **Running your script another time**
- **Set and shopt**

Running code from a file

- **Using hash-bang and running it as a command**
  - Will start a bash subprocess
  - Executable permission has to be set
- **Or when it does not have a hash-bang**
  - bash myscript
  - No permissions necessary
  - bash -x myscript
- **To import code in the current shell process**
  - source myscript
  - . myscript
  - This is basically what happens with .bashrc

Background and nohup

- **Put a command in the background with &**
  - myscript &
  - It will be disconnected from the interactive session
  - Will be suspended if it tries to read input from the terminal

- **Long-running scripts**
  - Keep your script running when you exit the terminal session
  - nohup myscript &

- **Run your script with a lower priority**
  - nice myscript
  - nohup nice myscript &

Redirecting with exec

- **Redirect I/O for the whole script**
  - Useful for logging
  - exec >logfile 2>errorlog

Running your script another time

- **At**
  - Will execute your script at a specific time
  - at -f myscript noon tomorrow

- **Cron**
  - Will execute your script according to a schedule
  - On Mac OS, use launchd
  - On Ubuntu, you may want to look at Upstart

set and shopt

- **Customize bash behaviour with set and shopt**
- **set**
  - □ -x prints each command with its arguments as it is executed
  - □ -u gives an error when using an uninitialized variable and exits script
  - □ -n read commands but do not execute
  - □ -v print each command as it is read
  - □ -e exits script whenever a command fails (but not with if, while, until, ||, &&)
  - □ ... and more
- **shopt**
  - □ Can set many options with -s, unset with -u
  - □ shopt -s nocaseglob: Ignore case with pathname expansion
  - □ shopt -s extglob: Enable extended pattern matching
  - □ shopt -s dotglob: Include hidden files with pathname expansion
  - □ set -o noclobber: Don't overwrite files on redirection operations.
  - □ ... and more

Summary

- **Running scripts**
- **The background and nohup**
- **Exec and redirection**
- **Running your script another time**
- **Set and shopt**