Seneca | SCHOOL OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

Unix Scripting

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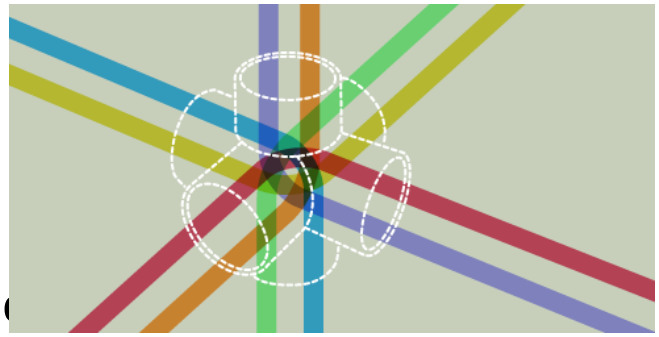
Agenda

- Named Pipes

Pipes in Unix



- Pipes
  - `ls  | grep x`
    - Bash and other shells run both comman
      of the first to the input of the second.
  - The above is an example of an "**unnamed pipe**".
    - The pipe exists only inside the kernel and cannot be accessed by processes that created it, in this case, the bash shell.
  - The other sort of pipe is a "**named**" pipe
- In computing, a **named pipe** is an extension to the traditional pipe concept on Unix and Unix-like systems, and is one of the methods of **inter-process communication**.

Named Pipes

- a **named pipe** is a special file that can be used even over multiple shell sessions.
- It is a special file that follows the FIFO (first in, first out) mechanism.
  - It can be used just like a normal file; i.e., you can write to it, read from it, and open or close it.
- To create a named pipe, the command is:

```
mkfifo pipe-name
```

Check the named pipe

- Use `ls -l pipe_name`

```
[shahdad.shariatmadar@mtrx-node06pd ~]$ ls -l mypipe
prw-rw-rw- 1 shahdad.shariatmadar users 0 Jul 28 08:28 mypipe
```

- Notice the size of the named pipe is zero and it has a designation of "**p**".

How name-pipe works

- Create a named pipe

```
mkfifo mypipe
```

- Run a command and redirect the output to the pipe

```
echo “hello” > mypipe &
```

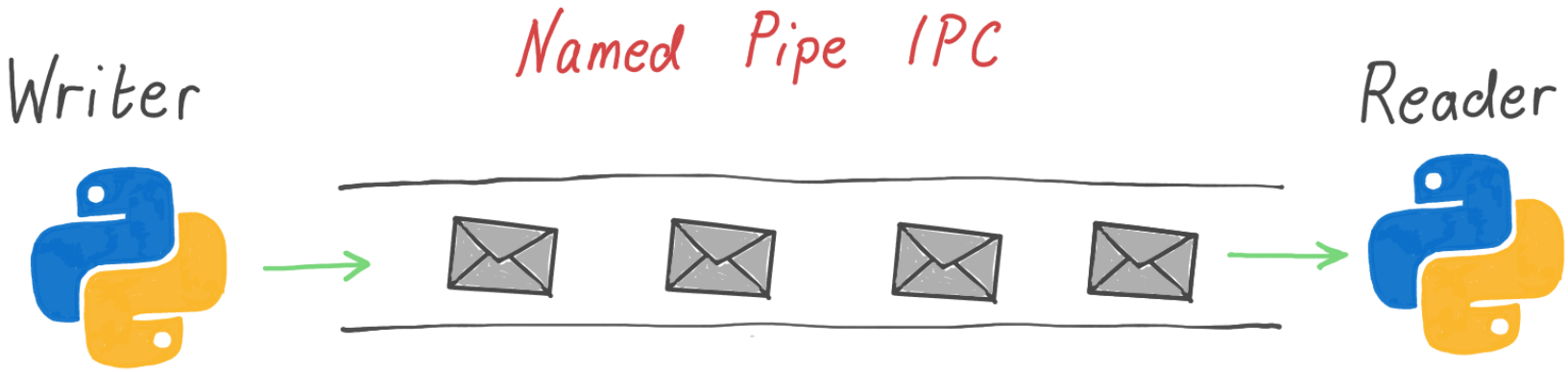
- Read from the pipe and display it

```
cat mypipe
```

- What happen?

An IPC use case

- Using **named pipes** as a message queue, where a “writer” process sends messages into a named pipe, which are taken off at the other side by a “reader” process asynchronously.



An IPC use case

- Using a named pipe, you can start the backup and the shutdown cron jobs at the same time and have the shutdown just wait till the backup writes to the named pipe.
- When the shutdown job reads something from the pipe, it then pauses for a few minutes so the cron e-mail can go out, and then it shuts down the system.

Complete the activity

- You are going to proceed with the given instruction in the PDF file and complete it.