

Third Session

Reto Kromer • AV Preservation by reto.ch

Bash for Archivists
Part 2: Intermediate Level
30th June and 2nd July 2020

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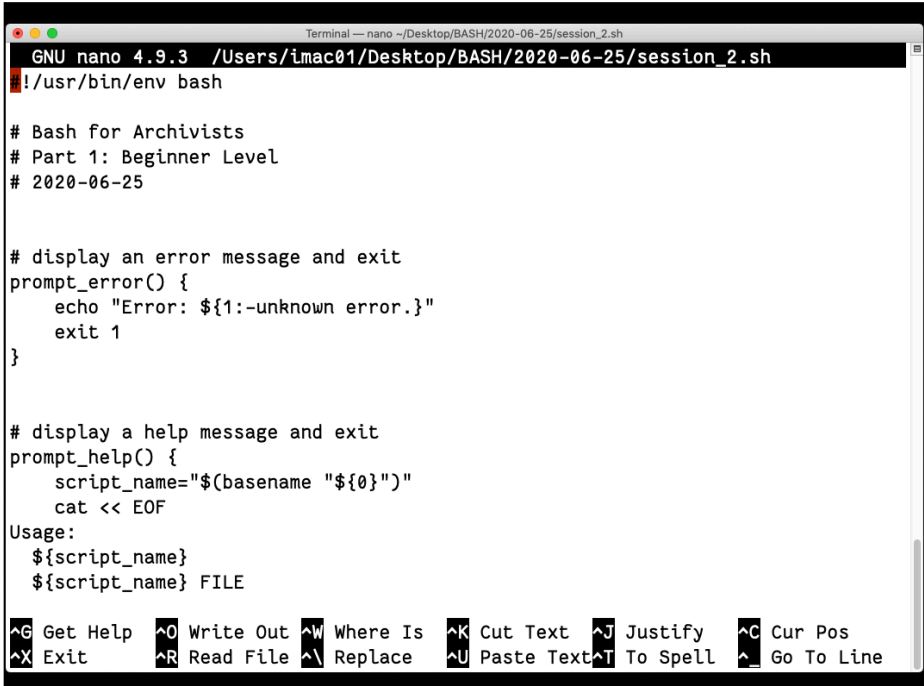
Table of Contents

- customising your environment
- flow control: looping with «while» and «until»
- arrays
- file processing
- flow control: branching with «case»
- process handling, redirections

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Recapitulation

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```
Terminal - nano ~/Desktop/BASH/2020-06-25/session_2.sh
GNU nano 4.9.3 /Users/imac01/Desktop/BASH/2020-06-25/session_2.sh
#!/usr/bin/env bash

# Bash for Archivists
# Part 1: Beginner Level
# 2020-06-25

# display an error message and exit
prompt_error() {
    echo "Error: ${1:-unknown error.}"
    exit 1
}

# display a help message and exit
prompt_help() {
    script_name="$(basename "${0}")"
    cat << EOF
Usage:
  ${script_name}
  ${script_name} FILE
^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text   ^J Justify   ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line
```

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```

Terminal — nano ~/Desktop/BASH/2020-06-25/session_2.sh
GNU nano 4.9.3 /Users/imac01/Desktop/BASH/2020-06-25/session_2.sh

# display an error message and exit
prompt_error() {
    echo "Error: ${1:-unknown error.}"
    exit 1
}

# display a help message and exit
prompt_help() {
    script_name="$(basename "${0}")"
    cat << EOF
Usage:
  ${script_name}
  ${script_name} FILE
  ${script_name} -h
EOF
    exit 0
}

^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line

```

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```

Terminal — nano ~/Desktop/BASH/2020-06-25/session_2.sh
GNU nano 4.9.3 /Users/imac01/Desktop/BASH/2020-06-25/session_2.sh

# read input
if (( "${#}" == 0 )); then
    echo -n "Please drag-and-drop a file: "
    read input_file
else
    input_file="${1}"
fi

# display a help message
if [[ "${input_file}" == "-h" ]]; then
    prompt_help
fi

# verify input
if (( "${#}" > 1 )); then
    prompt_error "too many arguments: ${#}."
elif [[ "${input_file}" == "" ]]; then
    prompt_error "no file passed."

```

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```

Terminal — nano ~/Desktop/BASH/2020-06-25/session_2.sh
GNU nano 4.9.3 /Users/imac01/Desktop/BASH/2020-06-25/session_2.sh

# verify input
if (( "${#}" > 1 )); then
    prompt_error "too many arguments: ${#}."
elif [[ "${input_file}" == "" ]]; then
    prompt_error "no file passed."
elif [[ ! -f "${input_file}" ]]; then
    prompt_error "'${input_file}' is not a file."
elif [[ "${input_file}" == "${0}" ]]; then
    prompt_error "'$(basename ${input_file})' is... myself!"
elif cat "${input_file}" | grep "#format: frame checksums" >/dev/null; then
    prompt_error "'$(basename ${input_file})' is a frame MD5 checksum file."
elif ffprobe "${input_file}" 2>&1 | grep "Invalid data found" >/dev/null; then
    prompt_error "'$(basename ${input_file})' is not an AV file."
fi

# generate frame MD5 checksums (placeholder)
filename="${input_file%.*}_${input_file###*_md5.txt}"
ffmpeg -i "${input_file}" -f framemd5 "${filename}"

```

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The FFmpeg Family

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Components

Tools

- ffmpeg
- ffplay
- ffprobe

Libraries

- libavutil
- libavcodec
- libavformat
- libavdevice
- libavfilter
- libswscale
- libswresample

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Data Transformations

demultiplex: libavformat

decode: libavcodec

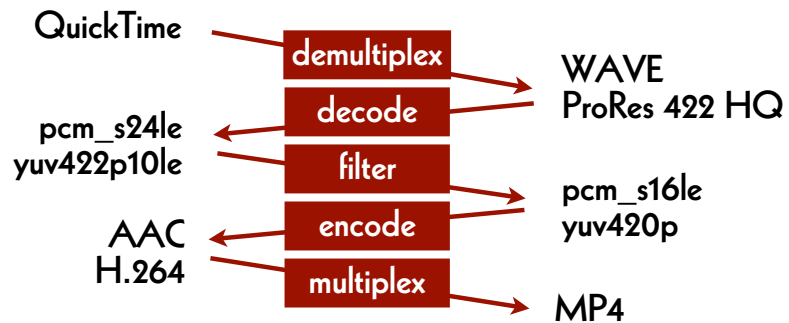
filter: libavfilter

encode: libavcodec

multiplex: libavformat

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Audio-Visual Exemple



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AV Preservation by reto.ch

zone industrielle Le Trési 3
1028 Préverenges
Switzerland

Web: reto.ch
Twitter: @retoch
Email: info@reto.ch



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