LESSON 7





Arrays & ${ }



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BASH & ZSH SCRIPTING

LESSON 7

Arrays and String Tricks

Indexed and associative arrays, ${var} expansions, length, slices and replace

Indexed Arrays

arrays.sh

```
cities=(Kabul Herat "Mazar-i-Sharif")
echo "${cities[0]}"          # Kabul (Bash)
echo "${#cities[@]}"         # 3
cities+=(Kandahar)            # append
for c in "${cities[@]}"; do echo "$c"; done
```

- Create an array with parentheses. Read one element with dollar brace name square bracket …
- Dollar brace hash name at gives the length. In Bash indexes start at zero, but in Zsh they …

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Associative Arrays

assoc.sh

```
declare -A port
port[web]=80; port[ssh]=22; port[db]=5432
echo "ssh uses ${port[ssh]}"
for svc in "${!port[@]}"; do        # keys
    echo "$svc -> ${port[$svc]}"
done
```

- declare dash capital A creates an array with string keys, like a dictionary. It needs Bash …
- Use it for lookups and counting, for example the number of logins per user.

02

Parameter Expansion

Expansion	file = report.tar.gz	Meaning
`${#file}`	13	length
`${file%.*}`	report.tar	remove shortest end
`${file%%.*}`	report	remove longest end
`${file#*.}`	tar.gz	remove shortest start
`${file/tar/zip}`	report.zip.gz	replace

- Dollar-brace expansions edit strings without calling another program. Hash removes from the …
- So dollar brace file percent dot star removes the extension, and dollar brace path hash …

03

Slices, Case and Defaults

strings.sh

```
name="mariam"
echo "${name:0:3}"          # mar
echo "${name^^}"            # MARIAM
echo "${name^}"             # Mariam
echo "${port:-8080}"        # default
: "${DB_HOST:?DB_HOST must be set}"
```

- Dollar brace name colon zero colon three takes the first three characters. Two carets make …
- Colon dash gives a default value, and colon question mark stops the script with a message …

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Renaming Files in Bulk

rename.sh

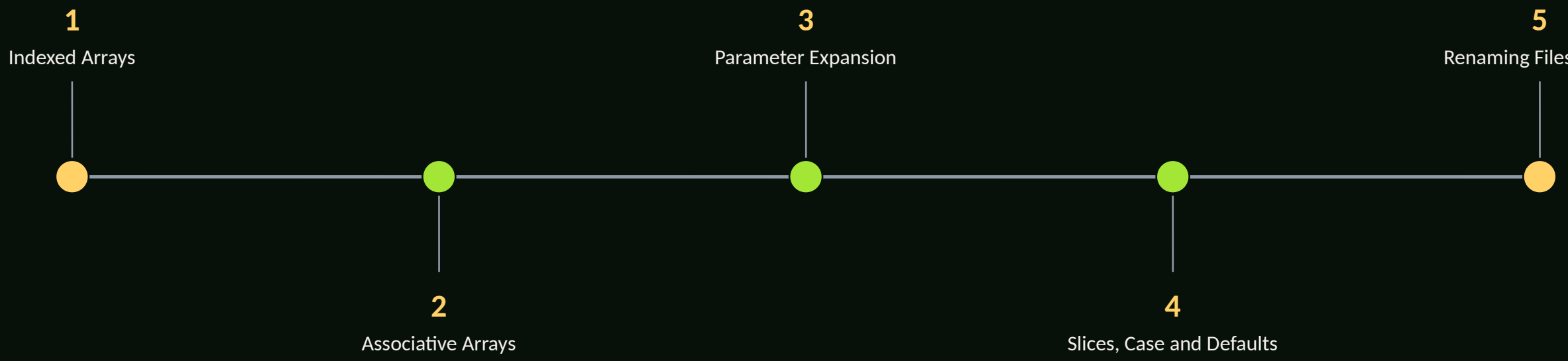
```
for f in *.jpeg; do
    echo mv -- "$f" "${f%.jpeg}.jpg"     # dry run first
done

for f in *\ *; do                        # replace spaces
    mv -- "$f" "${f// /_}"
done
```

- Combine loops and expansions to rename hundreds of files in one go, with no extra tools.
- Always test first by putting echo in front of mv. When the printed commands look right, …

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Lesson Map


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Sources and Further Reading





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