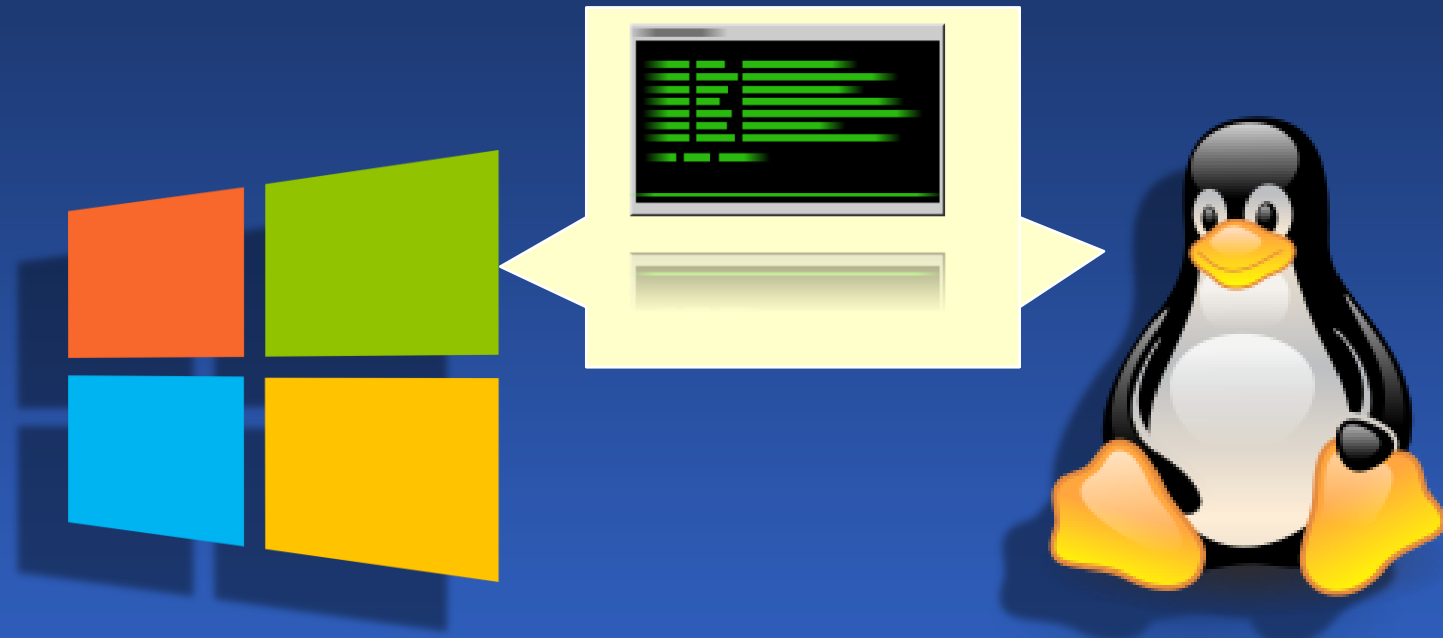# System shells

BAT syntax - 2

2 - BATCH VARIABLES

%PATH% etc.

CMD variables list

◆ Type **SET | MORE**

```
ALLUSERSPROFILE=C:\ProgramData
APPDATA=C:\Users\tjoubert.LAN\AppData\Roaming
CommonProgramFiles=C:\Program Files\Common Files
CommonProgramFiles(x86)=C:\Program Files (x86)\Common Files
CommonProgramW6432=C:\Program Files\Common
COMPUTERNAME=TWEETY
ComSpec=C:\WINDOWS\system32\cmd.exe
DriverData=C:\Windows\System32\Drivers
FPS_BROWSER_APP_PROFILE_STRING=Interne
FPS_BROWSER_USER_PROFILE_STRING=De
HOMEDRIVE=C:
HOMEPATH=\Users\tjoubert.LAN
IDF_TOOLS_PATH=C:\ESP
LOCALAPPDATA=C:\Users\tjoubert.LAN\AppData\Local
LOGONSERVER=\\TYLUUN
NUMBER_OF_PROCESSORS=8
OneDrive=C:\Users\tjoubert.LAN\OneDrive - THEORIS
```

Home sweet Home

◆ Type `echo  HOMEPATH`
- Expected HOMEPATH string ☹

◆ Type `echo  %HOMEPATH%`
- Content of the HOMEPATH variable ☺

◆ Type `echo  %homepath%`
- Remember CMD is NOT case sensitive

```
C:\Users\tjoubert.LAN\BB>echo %HOMEPATH%
\Users\tjoubert.LAN

C:\Users\tjoubert.LAN\BB>echo %homepath%
\Users\tjoubert.LAN
```

Some other important variables

◆ Type **`echo %PATH%`**
- Folders CMD will search for <u>files to execute</u>
- **`NOTEPAD batch.txt`** works even if **`NOTEPAD`** <u>is not</u> in the current folder

◆ Type **`echo %PATHEXT%`**
- Extensions considered as <u>files to execute</u>

◆ Type **`echo %USERNAME%`** = who is talking?

◆ Type **`echo %WINDIR%`** = where is the system?

◆ Type **`echo %ComSpec%`** = what is the BATCH CMD?

◆ Type **`echo %PROMPT%`** = it is also a variable!

Unlisted variables

◆ Type `echo %DATE%`

◆ Type `echo %TIME%`

◆ Type `echo %ERRORLEVEL%`
- Value **1** means the previous command failed

◆ Type `echo %CD%`

◆ Type `echo %RANDOM%`

◆ Type `echo %CMDCMDLINE%`

Use variables

◆ Command working for everybody
  - `cd %HOMEPATH%\Desktop`

◆ Create timestamps
  - `Echo %DATE%_%TIME%`

◆ Generate a random number
  - `Echo %RANDOM%`

Content substitution

◆ Type **MKDIR Lab%DATE%**
- Does not work because DATE contains "**/**«

◆ Use **%VAR:str1=str2%** substitution pattern
- **str1** may start with "*****"
- **str2** may be empty

◆ Type **MKDIR Lab%DATE:/=-%**
- DATE expansion replaces "**/**" with "**-**"
- Replacement also applies on strings

Content reduction

◆ Type **echo BATCH > %TIME%.txt**
- Does not work because TIME contains "**,**"

◆ Use **%VAR:~index,qty%** reduction pattern
- **index** & **qty** are decimals (i.e. **%PATH:~50,100%**)
- **index** starts at 0 (**~0** means beginning)
- **qty** may be empty (rest of the string)
- **-3** means **(VAR_length − 3)**

◆ Type **echo BATCH > %TIME:~0,-3%.txt**
- Still does not work because TIME contains "**:**"

My own variables

◆ Type `SET MYTIME=%TIME:~0,-3%`
- Creates a new BATCH variable `%MYTIME%`
- Check the existence by Typing `SET`
- No variable name may contain "`=`"

◆ Type `echo BATCH > %MYTIME::=-%.txt`
- Works fine for log files

Create arithmetic variables

◆ Type `SET /A TEN=10`

◆ Type `echo %TEN%`
- Displays `10`

◆ Type `SET /A ELEVEN=(TEN+1)`

No %TEN% required

◆ Type `echo %ELEVEN%`
- Variable `%ELEVEN%` is `11`

String variable!!

◆ Type `SET ELEVEN=(TEN+1)`

◆ Type `echo %ELEVEN%`
- Variable `%ELEVEN%` is `(TEN+1)`

Several numeric bases

◆ **Default is decimal**
- **Type** `SET /A TEN=10`
- **Displays** `10`

◆ **Hexadecimal with `0x` prefix**
- **Type** `SET /A TEN=0x10`
- **Displays** `16` *(...the Hex 10)*

◆ **Octal with `0` prefix**
- **Type** `SET /A TEN=010`
- **Displays** `8` *(...the Octal 10)*
- **Beware** `08` **and** `09` **are not allowed**

Query the user

◆ Type `SET /P USERINPUT=`
- Will wait for user input until `<ENTER>`

◆ Type `echo %USERINPUT%`
- Will display user input

◆ Type `SET /P USERINPUT= Please type...`
- Displays a message before waiting