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CC@Home: Native scripting in Windows: the Command Prompt interface

July 27, 18:00 (UTC)
Luca Di Stasio

- Duration: 90 min

Host/Call details

- Your Time: https://www.timeanddate.com/worldclock/fixedtime.html?msg=CC%40Home%3A+Native+scripting+in+Windows%3A+the+Command+Prompt+interface&iso=20200727T18&p1=1440
- Connection link: https://carpentries.zoom.us/my/carpentriesroom3
- Session Regional Coordinator: Mateusz Kuzak
- Link to Regional Host, Co-host/CoC Facilitators and Speakers Guide:
    - https://github.com/carpentrycon/carpentryconhome-proposals/blob/master/CCatHome_Regional_Host_Guide.md
- Code of Conduct:
    - https://docs.carpentries.org/topic_folders/policies/code-of-conduct.html
    - Use welcoming and inclusive language
    - Be respectful of different viewpoints and experiences
    - Gracefully accept constructive criticism
    - Focus on what is best for the community
    - Show courtesy and respect towards other community members

- report to coc@carpentries.org
  - Feedback survey:
    - https://carpentries.typeform.com/to/mUOIP0sc

Roll call + Check in:

Name / email / pronoun / social media handle / location

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Opening

QUESTION 1
Which OS do you usually use?
+1 next to the selected answer
@WORK
Windows:+1+1+1+1
MacOS: +1+1+1
Linux:+1+1
@HOME
Windows:+1+1+1+1
Mac:+1+1+1
Linux:+1

QUESTION 2
How proficient are you in using...
+1 next to the selected answer
--> Windows Command Prompt?
[0] I don't know how to open it
[1] I know a few basic commands (cd, dir)+1+1+1+1+1+1
[2] I regularly write and use custom command/batch files
--> Bash Shell?
[0] I don't know how to open it
[1] I know a few basic commands (cd, ls)+1+1+1c+1
[2] I regularly write and use custom shell scripts +1+1

Main session (notes)

Please feel free to take notes here
Subsystems are very useful. You get full featured linux working on windows. The drawback is that you cannot access windows files system. You get a "separate" work station. Varoiud flavours of linux subsysems are available: Ubuntu, SUSE, Kali LInux.

Window PowerShell is the default command line on windows.

type "Command prompt" in start menu to open command line window.
type "help" to get help, it will list avaialble commands
cd /? - get help about "cd" command
cd - with the name of the directory acts like cd on unix, changes the direcotry
cd acts as unix pwd when run without parameters, it prints current working directory
wildcards work similar to Unix,

- * matches any number of any character
- ? matches single arbitrary character

dir - lists the folder content
mkdir - creates directory
where - gives location of the file, gives full file path from the root
notepad can be used to create files, when one uses name of not existing file as an argument
command prompt is agnostic to the use of / and \, it natively uses \ in paths but allows you to use /
arrows up and down allow you to access history
F7 gives you a window with access to your history
doskey - function
command prompt is case insensitive, in contrast to Unix command line
F8 - gives completion suggestions
> - redirects output to file, eg. you can use it to save the history to the file
doskey \h > session_history.txt
single > overwrites the file if the file exitst
>> appends
.txt .bat and .cmd can all be used for scripts
it's better to use .cmd, intivirus software will try to prevent .bat files from running
notepad session_script01.cmd - to create a script file
@echo OFF
REM This is an example script
for %%x in (1 2 3) do echo %%x
pause

in scripts always use one command line per line
echo - print to screen
%%x is a temporary local variable
REM is used for comments

notepad session_script02.cmd
@echo OFF
for /L %%x (1, 5, 50) do @echo %%x
pause

/L is a list
syntax: for /L %%x (initial value, incremental, final value)

@echo ON - prints out each command that is executed
default is @echo ON

```
notepad session_script03.cmd
@echo OFF
for %%y in (./*) do @echo %%y >> allFiles.txt
pause
```

(./*) - everything in current folder
this script will write the list of the files in the directory into the file

```
type allFiles.txt
or
more allFiles.txt
```

```
notepad session_script04.cmd
@echo OFF
set /a check=10
for /L %%x in  (1, 2, 50) do if %%x lss %check%
(echo %%x
```

set - can be used to set environment variables in windows, make sure you don't overwrite existing variables
IMPORTANT! no blank space around =
for variables created with set use %variable%

writting functions:
```
notepad session_script05.cmd
@echo OFF

:listFiles
set filesList=%~1/*
for %%y in (%filesList)  do @echo %%y
exit /B 0

:nameofthefunction
```
exit - end of fucntion
/B
0 exit code

Closing

QUESTION 3
Would you attend a Carpentry-style workshop on today's topics?
+ for yes, - for no. Comments (if any) below the heading "Comments to Q3"
+++
Comments to Q3

QUESTION 4

Do you believe there exists a need for training on advanced scripting tools in Windows (today's sessions) at your institution?

+ for yes, - for no. Comments (if any) below the heading "Comments to Q4"

+++

Comments to Q4

Also use cases - explain why this would be useful. This is the biggest question I get from students in Carpentries sessions.

QUESTION 5

Would you like to see a Carpentry(-style) lesson on today's topics published online?

+ for yes, - for no. Comments (if any) below the heading "Comments to Q5"

+++

Comments to Q5