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| **POWERSHELL** |
| Put a / (slash) at the end of a directory, that makes sure the file is really a directory, so if the directory doesn't exist you will get an error  Command line interface **(CLI);** Graphical user interface **(GUI);** Windows: use slash (/) or backslash (\). **Ctrl + C (^C)** aborts commands |
| **hostname** = prints computer’s name |
| **> hostname**   zed-PC |

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| Use **cd** to get to other directories on computer then use **ls** to see what's in them. If you get lost, then use **ls** and **pwd** to figure out where you are, then go to where you need to be with **cd. dir –r** lists all the directories and their contents |
| **pwd** = print working directory (folder), prints the path of the current directory you are currently working with |
| **> pwd**  PS C:\Users\zed> pwd Path  ----  C:\Users\zed PS C:\Users\zed> |
| **cd =** change directory, move down; **cd .. =** change directory, move up |
| **> cd temp > pwd**  Path ---- C:\Users\zed\temp |
| **> cd stuff > pwd**  Path ---- C:\Users\zed\temp\stuff |
| **> cd things > pwd** Path  ---- C:\Users\zed\temp\stuff\things |
| **> cd frank > pwd** Path ----  C:\Users\zed\temp\stuff\things\frank |
| **> cd joe > pwd**  Path ----  C:\Users\zed\temp\stuff\things\frank\joe |
| **> cd alex > pwd** Path  ---- C:\Users\zed\temp\stuff\things\frank\joe\alex |
| **> cd john > pwd** Path   ---- C:\Users\zed\temp\stuff\things\frank\joe\alex\john |
| **> cd .. > cd .. > cd .. > pwd**  Path   ---- C:\Users\zed\temp\stuff\things\frank |
| **> cd ../.. > pwd** Path ---- C:\Users\zed\temp\stuff |
| **> cd .. > cd .. > cd temp/stuff/things/frank/joe/alex/john > cd ../../../../../../../ > pwd**   Path   ----   C:\Users\zed |
| **ls** = lists out the contents of the directory you are currently in |
| **> cd temp > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            stuff |
| **> cd stuff > ls** Directory: C:\Users\zed\temp\stuff  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            things |
| **> cd things > ls** Directory: C:\Users\zed\temp\stuff\things  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            frank |
| **> cd frank > ls** Directory: C:\Users\zed\temp\stuff\things\frank  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            joe |
| **> cd joe > ls** Directory: C:\Users\zed\temp\stuff\things\frank\joe  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            alex |
| **> cd alex > ls**  Directory: C:\Users\zed\temp\stuff\things\frank\joe\alex  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            john |
| **> cd john > ls > cd .. > ls** Directory: C:\Users\zed\temp\stuff\things\frank\joe\alex  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            john |
| **> cd .. > ls** Directory: C:\Users\zed\temp\stuff\things\frank\joe  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            alex **> cd ../../.. > ls** Directory: C:\Users\zed\temp\stuff  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            things |
| **> cd .. > ls** Directory: C:\Users\zed\temp Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            stuff |
| **pushd** takes your current directory and "pushes" it into a list for later, then it changes to another directory. It's like saying, "Save where I am, then go here."  **popd** command takes the last directory you pushed and "pops" it off, taking you back there. |
| **> cd temp > mkdir -p i/like/icecream**  Directory: C:\Users\zed\temp\i\like  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/20/2011  11:05 AM            icecream |
| **> pushd i/like/icecream  > popd  > pwd** Path   ---- C:\Users\zed\temp |
| **> pushd i/like  > pwd** Path   ----   C:\Users\zed\temp\i\like |
| **> pushd icecream > pwd** Path   ---- C:\Users\zed\temp\i\like\icecream |
| **> popd  > pwd** Path   ---- C:\Users\zed\temp\i\like |
| **> popd > pwd**  C:\Users\zed\temp |

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| **mkdir** = make a directory, make a path (directory inside of a directory, tree of folders); mkdir will make an entire path even if all the directories don't exist  Make a directory with a space in the name by putting quotes around it: mkdir "I Have Fun." If the temp directory already exists then you'll get an error. |
| **> mkdir temp** Directory: C:\Users\zed Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:02 AM            temp |
| **> mkdir temp/stuff**       Directory: C:\Users\zed\temp     Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:02 AM            stuff |
| **> mkdir temp/stuff/things** Directory: C:\Users\zed\temp\stuff  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            things |
| **> mkdir temp/stuff/things/frank/joe/alex/john** Directory: C:\Users\zed\temp\stuff\things\frank\joe\alex  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            john |
| **rmdir** = remove directory**.** Go to the directory right above it, then type rmdir DIR, replacing "DIR" with the name of the directory to remove |
| **> cd temp  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:03 AM            stuff |
| **> cd stuff/things/frank/joe/alex/john/  > cd ..  > rmdir john > cd ..  > rmdir alex  > cd ..  > rmdir joe  > cd ..  > rmdir frank > cd ..  > ls** Directory: C:\Users\zed\temp\stuff  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:14 AM            things |
| **> rmdir things  > cd ..  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/17/2011   9:14 AM            stuff |
| **> rmdir stuff > pwd** Path   ----   C:\Users\zed\temp |
| **> cd .. > ls**  Path   ----   C:\Users\zed |

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| **new-item FILE –type file** **-value "some text"**= makes a new file with the content; **echo > newfile.txt** = makes a new file with a values  **> new-item "Demo" -type directory** = makes a directory named “Demo” |
| **> cd temp  > echo > newfile.txt** cmdlet Write-Output at command pipeline position 1  Supply values for the following parameters:  InputObject[0]: This is a new file. InputObject[1]: This is a new file.  InputObject[2]: This is a new file. InputObject[3]: |
| **> cd temp  > New-Item iamcool.txt -type file  > ls** Directory: C:\Users\zed\temp Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/17/2011   9:03 AM            iamcool.txt |
| **rm** = remove a file |
| **> cd temp  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            newplace    d----        12/22/2011   4:52 PM            something    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt    -a---        12/22/2011   4:49 PM          0 uncool.txt |
| **> rm uncool.txt  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            newplace    d----        12/22/2011   4:52 PM            something    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt |
| **> rm iamcool.txt   > rm neat.txt  > rm thefourthfile.txt  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            newplace    d----        12/22/2011   4:52 PM            something |
| **> cp -r something newplace   > rm something/awesome.txt  > rmdir something  > rm -r newplace  > ls**  C:\Users\zed\temp |
| **cp =** copies file to another file; **> cp -recurse folder1 folder2**= copies folder1 to folder with all of its content |
| **> cd temp > cp iamcool.txt neat.txt  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt |
| **> cp neat.txt awesome.txt  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   4:49 PM          0 awesome.txt    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt |
| **> cp awesome.txt thefourthfile.txt > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   4:49 PM          0 awesome.txt    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt |
| **> mkdir something** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            something |
| **> cp awesome.txt something/  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name  ----                -------------     ------ ----  d----        12/22/2011   4:52 PM            something  -a---        12/22/2011   4:49 PM          0 awesome.txt  -a---        12/22/2011   4:49 PM          0 iamcool.txt  -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt |
| **> ls something** Directory: C:\Users\zed\temp\something  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   4:49 PM          0 awesome.txt |
| **> cp -recurse something newplace  > ls newplace**  Directory: C:\Users\zed\temp\newplace Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   4:49 PM          0 awesome.txt |
| **mv =** moving files or, rather, renaming them |
| **> cd temp  > mv awesome.txt uncool.txt  > ls** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            newplace    d----        12/22/2011   4:52 PM            something    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt    -a---        12/22/2011   4:49 PM          0 uncool.txt |
| **> mv newplace oldplace  > ls**   Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            oldplace    d----        12/22/2011   4:52 PM            something    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt    -a---        12/22/2011   4:49 PM          0 uncool.txt |
| **> mv oldplace newplace  > ls newplace** Directory: C:\Users\zed\temp\newplace  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   4:49 PM          0 awesome.txt |
| **> ls** Directory: C:\Users\zed\temp Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    d----        12/22/2011   4:52 PM            newplace    d----        12/22/2011   4:52 PM            something    -a---        12/22/2011   4:49 PM          0 iamcool.txt    -a---        12/22/2011   4:49 PM          0 neat.txt    -a---        12/22/2011   4:49 PM          0 thefourthfile.txt    -a---        12/22/2011   4:49 PM          0 uncool.txt |
| **more =** displays the file. If the file has many lines, it will "page" so only one screen at a time is visible. Hit spacebar to page through |
| **> more ex12.txt**  [displays file here] |
| **cat** = spews the whole file to the screen with no paging or stopping |
| **> more ex13.txt**  [displays file here] |
| **> cat ex13.txt** [displays file here] |
| **Redirection** = take a command and change where its input and output goes. We use the < , >, and | (pipe)  **|** takes the output from the command on the left, and "pipes" it to the command on the right  **<** takes and sends the input from the file on the right to the program on the left. This does not work in PowerShell  **>** takes the output of the command on the left, then writes it to the file on the right  **>>** takes the output of the command on the left, then appends it to the file on the right |
| **> cd ..  > cd temp  > cat ex12.txt,ex13.txt | more**  **> echo "I am a new file." > ex15.txt**  **> cat ex15.txt**  I am a new file.  **> cat ex15.txt > another.txt**  **> cat another.txt** I am a new file.  **> cat ex15.txt | more** |

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| **Matching** = wherever you put the **asterisk**, the shell will build a list of all the files that match the non-asterisk part  By writing **\*.txt**, you are saying "anything ending in .txt" At the end we use **rm \*.txt** to remove all of the .txt files in the temp directory |
| **> cd temp  > ls \*.txt** Directory: C:\Users\zed\temp  Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   5:23 PM         38 another.txt    -a---        12/22/2011   5:23 PM         38 ex15.txt |
| **> ls ex\*.\*** Directory: C:\Users\zed\temp Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   5:23 PM         38 ex15.txt |
| **> ls e\*** Directory: C:\Users\zed\temp Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   5:23 PM         38 ex15.txt |
| **> ls \*t** Directory: C:\Users\zed\temp Mode                LastWriteTime     Length Name    ----                -------------     ------ ----    -a---        12/22/2011   5:23 PM         38 another.txt    -a---        12/22/2011   5:23 PM         38 ex15.txt |
| **> cat \*.txt** I am a new file. I am a new file. **> rm \*.txt  > ls**  C:\Users\zed\temp |

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| **dir -r -filter** = finds files. **dir -r -filter "\*.txt"  > “somefile.txt”** will write the output to the file somefile.txt |
| **> dir -r  > cd ..  > dir -r -filter "\*.txt"  > cd ..  > dir -r | more** |
| **select-string** = looking inside files |
| **> cd temp  > echo > newfile.txt** cmdlet Write-Output at command pipeline position 1  Supply values for the following parameters:  InputObject[0]: This is a new file. InputObject[1]: This is a new file.  InputObject[2]: This is a new file. InputObject[3]: |
| **> echo > oldfile.txt**  cmdlet Write-Output at command pipeline position 1  Supply values for the following parameters: InputObject[0]: This is a old file.  InputObject[1]: This is a old file. InputObject[2]: This is a old file.  InputObject[3]: |
| **> select-string new \*.txt** newfile.txt:1:This is a new file.  newfile.txt:2:This is a new file. newfile.txt:3:This is a new file. |
| **> select-string old \*.txt** oldfile.txt:1:This is a old file.  oldfile.txt:2:This is a old file. oldfile.txt:3:This is a old file. |
| **> select-string file \*.txt** newfile.txt:1:This is a new file.  newfile.txt:2:This is a new file. newfile.txt:3:This is a new file.  oldfile.txt:1:This is a old file. oldfile.txt:2:This is a old file.  oldfile.txt:3:This is a old file. |

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| **Get-ChildItem env:** = lists all your environment variables and their values  **$env:TestVariable** = "This is a test environment variable." = creates a new environment variable  **$env:Variable** = shows the variable  **Remove-Item Env:\TestVariable** = deletes environment variables |
| **> get-childitem Env:** Name                           Value  ----                           ----- ALLUSERSPROFILE                C:\ProgramData  APPDATA                        C:\Users\zed\AppData\Roaming **> $env:PROMPT**  $P$G **> $env:TEMP** C:\Users\zed\AppData\Local\Temp **> $env:OS** Windows\_NT |
| **> $env:TESTING = "bada bada bing" > $env:TESTING** bada bada bing  **> remove-item Env:\TESTING > get-childitem Env: | select-string TESTING**  **> [Environment]::SetEnvironmentVariable("Path", "$env:Path;C:\Python27", "User")** |
| **help** = getting command help  > **help dir  > help select-string  > help help  > help cp** |
| **help \*\* =** looks through all the help files and finds potentially relevant help  **> help \*Al\*  > help \*Dir\*  > help \*Find\*  > help \*remove\*** |
| **> exit** = exit a terminal  **Owner's Manual:** <http://technet.microsoft.com/en-us/library/ee221100.aspx>  **Cheat Sheet:** <http://www.microsoft.com/download/en/details.aspx?displaylang=en&id=7097>  **Master Powershell:** <http://powershell.com/cs/blogs/ebook/default.aspx> |