

# Command Line Basics

Learn how to navigate your filesystem  
using the command line



# So you want to create a collection of Twitter data...

You're going to need to know how to  
navigate your filesystem first



# How do you create a new folder?

- a. Right-click on my desktop and click 'Create New Folder'
- b. Click on the 'New Folder' button in my file explorer
- c. Will it into existence, I have the power within me
- d. I don't. I like my files to be free range.



# Some tips!

**'PS' signals the shell prompt. You can tell when a process is complete when it returns to the shell prompt.**

**Capitalization and spacing matter! Make sure to always double check your work.**

**You can drag and drop folders into PowerShell instead of typing out their filepath**

**Using the up arrow on your keyboard will recall commands. Use this tip to waste less time writing out commands and lengthy filepaths.**

**You can paste text by right-clicking in PowerShell**



**Getting**

**Started**

**>> Download the file**  
**'walt\_whitman.zip'**  
**and save it to your**  
**Desktop.**



**Getting**

**Started**

**>> Use the taskbar to search  
for PowerShell and select  
'Windows PowerShell'**



Start menu search interface showing search results for 'powershell'.

Best match

- Windows PowerShell (Desktop app)

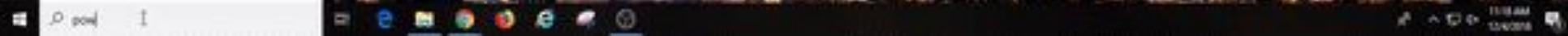
Apps

- PowerPoint 2016
- Windows PowerShell (X)
- Windows PowerShell (MS)

Search suggestions

- power - See all results

Settings (4+)



# Moving Around Using PowerShell

»» Find out where you are in your filesystem by entering the print working directory command

```
pwd
```

Administrator: Windows PowerShell

Windows PowerShell

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PS M:\> P\_

# Moving Around Using PowerShell

»» Let's find out which directories and files are in your location with the list files command

ls

Administrator: Windows PowerShell

Windows PowerShell

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PS M:\> pwd

Path

----

M:\

PS M:\>

# Moving Around Using PowerShell

»» Let's change directories. Navigate to your Desktop by entering the change directory command

```
cd D:\Desktop
```

*Important: If this command doesn't work, you may need to enter a different filepath. If this is the case for this or any of the following commands in this presentation, type the command first and then paste the correct filepath into PowerShell. This is illustrated in the following animated gif.*

Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.

PS M:\> pwd

Path

----

M:\

PS M:\> ls

Directory: M:\

Mode	LastWriteTime	Length	Name
----	-----	-----	----
d-----	1/7/2019 10:20 AM		1 october
d-----	1/7/2019 9:43 AM		twarc
-a----	9/13/2018 4:43 PM	0	20180913barrieMParis.json1
-a----	9/11/2018 7:43 AM	16017	Information for New Users.docx
-a----	9/13/2018 4:43 PM	368	twarc.log

PS M:\>

**Instead of typing out  
the filepath, you can  
just paste it into  
PowerShell**

# Moving Around Using PowerShell

»» Create a directory and title it walt\_whitman by using the make directory command

```
mkdir walt_whitman
```

Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.

PS M:\> pwd

Path

----

M:\

PS M:\> ls

Directory: M:\

Mode	LastWriteTime	Length	Name
----	-----	-----	----
d-----	1/7/2019 10:20 AM		1 october
d-----	1/7/2019 9:43 AM		twarc
-a-----	9/13/2018 4:43 PM	0	20180913BarrieMParis.json1
-a-----	9/11/2018 7:43 AM	16017	Information for New Users.docx
-a-----	9/13/2018 4:43 PM	368	twarc.log

PS M:\> cd D:\Desktop

PS D:\Desktop> █

# Moving Around Using PowerShell

» Move the 'walt\_whitman' zip file you downloaded from your Desktop into your 'walt\_whitman' directory by using a new command, move:

```
mv walt_whitman.zip walt_whitman
```

```
-----  
d----- 1/7/2019 10:20 AM 1 october  
d----- 1/7/2019 9:43 AM twarc  
-a----- 9/13/2018 4:43 PM @ 20180913BarrieMParis.json1  
-a----- 9/11/2018 7:43 AM 16017 Information for New Users.docx  
-a----- 9/13/2018 4:43 PM 368 twarc.log
```

```
PS M:\> cd D:\Desktop
```

```
PS D:\Desktop> mkdir walt_whitman
```

```
Directory: D:\Desktop
```

Mode	LastWriteTime	Length	Name
d-----	1/25/2019 11:34 AM		walt_whitman

```
PS D:\Desktop>
```

# Moving Around Using PowerShell

»» Navigate to your new directory using the  
change directory command

```
cd D:\Desktop\walt_whitman
```

```
-----  
d----- 1/7/2019 10:20 AM 1 october  
d----- 1/7/2019 9:43 AM twarc  
-a----- 9/13/2018 4:43 PM @ 20180913BarrieMParis.json1  
-a----- 9/11/2018 7:43 AM 16017 Information for New Users.docx  
-a----- 9/13/2018 4:43 PM 368 twarc.log
```

```
PS M:\> cd D:\Desktop
```

```
PS D:\Desktop> mkdir walt_whitman
```

```
Directory: D:\Desktop
```

Mode	LastWriteTime	Length	Name
d-----	1/25/2019 11:34 AM		walt_whitman

```
PS D:\Desktop> mv walt_whitman.zip walt_whitman
```

```
PS D:\Desktop>
```

**Nice work! Now we're  
going to manipulate  
some files using  
PowerShell.**



# Manipulating Files

## Using PowerShell

»» First, we need to unzip the file. Use the `expand archive` command to do so

```
Expand-Archive walt_whitman.zip
```

```
Path
```

```
****
```

```
D:\Desktop\walt_whitman
```

```
PS D:\Desktop\walt_whitman>
```

# Manipulating Files

## Using PowerShell

- »» **Navigate to the directory containing the unzipped files using the change directory command**

```
cd D:\Desktop\walt_whitman\walt_whitman
```

```
Path
```

```
----
```

```
D:\Desktop\walt_whitman
```

```
PS D:\Desktop\walt_whitman> Expand-Archive walt_whitman.zip
```

```
PS D:\Desktop\walt_whitman>
```

# Manipulating Files

## Using PowerShell

>> Let's see what's inside. Use the list files command

```
ls
```

```
Path
----
D:\Desktop\walt_whitman

PS D:\Desktop\walt_whitman> Expand-Archive walt_whitman.zip
PS D:\Desktop\walt_whitman> cd D:\Desktop\walt_whitman\walt_whitman
PS D:\Desktop\walt_whitman\walt_whitman>
```

## What you should see:

1\_Poems.txt

2\_Poems.txt

3\_Poems.txt

4\_Poems.txt

readme.txt

# Manipulating Files

## Using PowerShell

»» **What a treat! You've unzipped four poems and a README plain text file. Let's find out how many lines and words are in the file '1\_Poem.txt' by entering the `get-content` and `measure-object` commands**

```
Get-Content 1_Poem.txt | Measure-Object -Line -Word
```



```
Path
----
D:\Desktop\walt_whitman

PS D:\Desktop\walt_whitman> Expand-Archive walt_whitman.zip
PS D:\Desktop\walt_whitman> cd D:\Desktop\walt_whitman\walt_whitman
PS D:\Desktop\walt_whitman\walt_whitman> ls
```

```
Directory: D:\Desktop\walt_whitman\walt_whitman
```

Mode	LastWriteTime	Length	Name
-a----	1/6/2019 2:16 PM	13260	1_Poem.txt
-a----	1/6/2019 2:16 PM	1346	2_Poem.txt
-a----	1/6/2019 2:15 PM	658	3_Poem.txt
-a----	1/6/2019 2:15 PM	281	4_Poem.txt
-a----	1/6/2019 2:20 PM	473	readme.txt

```
PS D:\Desktop\walt_whitman\walt_whitman>
```

**There are 289 lines  
and 2,451 words in  
the first poem.**

# Manipulating Files

## Using PowerShell

**>> Let's find out which poem it is! Start by using the tail command, which pulls up the last 10 lines of a text**

```
Get-Content 1_Poem.txt -Tail 10
```

```
PS D:\Desktop\walt_whitman\walt_whitman> Get-Content 1_Poem.txt | Measure-Object -Line -Word
```

```
Lines Words Characters Property
```

```
-----  
289 2451
```

```
PS D:\Desktop\walt_whitman\walt_whitman>
```

## >>Here's what you should see

of woe,

With the holders holding my hand nearing the call of the bird,

Comrades mine and I in the midst, and their memory ever to

keep, for the dead I loved so well,

For the sweetest, wisest soul of all my days and lands—and this

for his dear sake,

Lilac and star and bird twined with the chant of my soul,

There in the fragrant pines and the cedars dusk and dim.

<https://whitmanarchive.org/published/LG/1891/clusters/192>



# Manipulating Files

## Using PowerShell

»» So that didn't give us the title, let's try and see if using the head command to get the first 10 lines of a text will help

```
Get-Content 1_Poem.txt -Head 10
```

```
-a----          1/6/2019    2:15 PM          650 3_Poem.txt
-a----          1/6/2019    2:15 PM          281 4_Poem.txt
-a----          1/6/2019    2:20 PM          473 readme.txt
```

```
PS D:\Desktop\walt_whitman\walt_whitman> Get-Content 1_Poem.txt | Measure-Object -Line -Word
```

```
Lines Words Characters Property
-----
289 2451
```

```
PS D:\Desktop\walt_whitman\walt_whitman> Get-Content 1_Poem.txt -Tail 10
```

```
of woe,
With the holders holding my hand nearing the call of the bird,
Comrades mine and I in the midst, and their memory ever to
keep, for the dead I loved so well,
For the sweetest, wisest soul of all my days and landsâ€”and this
for his dear sake,
Lilac and star and bird twined with the chant of my soul,
There in the fragrant pines and the cedars dusk and dim.
```

```
https://whitmanarchive.org/published/LG/1891/clusters/192
```

```
PS D:\Desktop\walt_whitman\walt_whitman>
```

## >> Here's what you should see

WHEN LILACS LAST IN THE DOORYARD BLOOM'D.

1

WHEN lilacs last in the dooryard bloom'd,

And the great star early droop'd in the western sky in the night,

I mourn'd, and yet shall mourn with ever-returning spring.

Ever-returning spring, trinity sure to me you bring,

Lilac blooming perennial and drooping star in the west,



# Manipulating Files

## Using PowerShell

»» Looks like we tracked down the title of the poem. Let's rename the file to match the poem's title. You can do this using the move command you learned earlier

```
mv 1_Poem.txt when_lilacs_last.txt
```

```
PS D:\Desktop\walt_whitman\walt_whitman> Get-Content 1_Poem.txt -Head 10
```

```
WHEN LILACS LAST IN THE DOORYARD BLOOM'D.
```

```
1
```

```
WHEN lilacs last in the dooryard bloom'd,  
And the great star early droop'd in the western sky in the night,  
I mourn'd, and yet shall mourn with ever-returning spring.
```

```
Ever-returning spring, trinity sure to me you bring,  
Lilac blooming perennial and drooping star in the west,
```

```
PS D:\Desktop\walt_whitman\walt_whitman>
```

# Manipulating Files

## Using PowerShell

»» Let's check out the 'readme.txt' file to see if it tells us about any of the other poems. You can open the file by using the `cat` (concatenate) command

```
cat readme.txt
```

```
PS D:\Desktop\walt_whitman\walt_whitman> Get-Content 1_Poem.txt -Head 10
```

```
WHEN LILACS LAST IN THE DOORYARD BLOOM'D,
```

```
1
```

```
WHEN lilacs last in the dooryard bloom'd,
```

```
And the great star early droop'd in the western sky in the night,
```

```
I mourn'd, and yet shall mourn with ever-returning spring.
```

```
Ever-returning spring, trinity sure to me you bring,
```

```
Lilac blooming perennial and drooping star in the west,
```

```
PS D:\Desktop\walt_whitman\walt_whitman> mv 1_Poem.txt when_lilacs_last.txt
```

```
PS D:\Desktop\walt_whitman\walt_whitman>
```

# Manipulating Files

## Using PowerShell

**>> Before we exit PowerShell, let's get rid of the 'walt\_whitman.zip' file since we don't need it anymore.**

**Do this by entering the remove command**

```
rm D:\Desktop\walt_whitman\walt_whitman.zip
```

All poems are from the Walt Whitman Archive.

URL:  
<https://whitmanarchive.org/published/LG/1891/clusters/192>  
PS D:\Desktop\walt\_whitman\walt\_whitman>

# Manipulating Files

## Using PowerShell

»» Since we're all done in this directory, navigate up two directories to your Desktop by entering the change directory command

```
cd ..\..
```

All poems are from the Walt Whitman Archive.

URL:  
<https://whitmanarchive.org/published/LG/1891/clusters/192>

PS D:\Desktop\walt\_whitman\walt\_whitman> **rm** D:\Desktop\walt\_whitman\walt\_whitman.zip

PS D:\Desktop\walt\_whitman\walt\_whitman>

# Manipulating Files

## Using PowerShell

»» Home sweet Desktop. Print the working directory one more time to make sure you're in the right place.

```
pwd
```

Administrator: Windows PowerShell



PS D:\Desktop>

# Manipulating Files

## Using PowerShell

**>> We're good to go! Go ahead and leave PowerShell by entering the exit command**

```
exit
```

```
PS D:\Desktop> pwd
```

```
Path
```

```
----
```

```
D:\Desktop
```

```
PS D:\Desktop>
```

**Nice work! Now you can  
use the command line to  
navigate your  
filesystem.**

**thank you**

**want to learn more?**

**email miranda**

**miranda.barrie@unlv.edu**

