

cse15l-lab-reports

Lab Report 1

Jon Fisher - A18011764

Introduction

For this week's lab, we focus on learning github basics, as well as the Unix filesystem commands `cd`, `ls`, and `cat`. The lab's primary objective was to familiarize us with github, and the basic command-line operations. Through this lab, I have gained more understanding in regards to navigating directories, listing contents, viewing file content, as well as setting up github repositories, uploading files, and creating pages.

1. `cd` command

The `cd` command is used to change the current working directory in the unix file system.

- **No argument example and `cd` :**
 - Path before command: `C:\Users\jonfi`
 - `cd` with no argument will change the current directory to the user's home directory.
 - in powershell, using `cd` with no argument will not do anything.
 - this command does NOT result in an error.

```
PS C:\Users\jonfi> cd
PS C:\Users\jonfi> pwd

Path
----
C:\Users\jonfi

PS C:\Users\jonfi> cd
PS C:\Users\jonfi> |
```

o image:

- **Directory as an argument:**

- o Path before command: `C:\Users\jonfi`
- o `cd documents` will change the current directory to the 'Documents' directory.
- o image:

```
C:\Users\jonfi

PS C:\Users\jonfi> cd documents
PS C:\Users\jonfi\documents> ls

Directory: C:\Users\jonfi\documents
```

- **Non existent argument:**

- o Path before command: `C:\Users\jonfi\documents`
- o `cd nonexistent` will cause an error since the specified directory does not exist in the current directory.

- o image:

```
PS C:\Users\jonfi\documents> cd
PS C:\Users\jonfi\documents> cd nonexistent
cd : Cannot find path 'C:\Users\jonfi\documents\nonexistent' because it does not exist.
At line:1 char:1
+ cd nonexistent
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\Users\jonfi\documents\nonexistent:String) [Set-Location], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.SetLocationCommand

PS C:\Users\jonfi\documents> |
```

- File as argument:

- o Path before command: `C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports`
- o using `cd test.md` is using the 'change directory' command on a file instead of a directory. This results in an error because the `cd` command is meant for directories, not files.
- o image:

```
Directory: C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports

Mode                LastWriteTime         Length Name
----                -
d-----          4/5/2024   3:36 PM                labReport1
-a-----          4/2/2024  10:15 AM                19 index.md
-a-----          4/2/2024  10:16 AM                37 Test.md
-a-----          4/2/2024  10:20 AM                14 Test2.md

PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports> cd test.md
cd : Cannot find path 'test.md' because it does not exist.
At line:1 char:1
+ cd test.md
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (test.md:String) [Set-Location], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.SetLocationCommand

PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports> cd test
cd : Cannot find path 'C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports\test' because it does not exist.
At line:1 char:1
+ cd test
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\Users\jonfi\...ab_reports\test:String) [Set-Location], ItemNotFoundE
xception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.SetLocationCommand

PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports> |
```

2. `ls` command

- No argument:

- o Path before command: `C:\users\jonfi\desktop\ucsd\cse15l`
- o `ls` will output and list all visible files and directories in the current working directory.

- o image:

```
PS C:\Users\jonfi\documents> cd
PS C:\Users\jonfi\documents> cd ~
PS C:\Users\jonfi> cd desktop\ucsd\cse15l
PS C:\Users\jonfi\desktop\ucsd\cse15l> ls

Directory: C:\Users\jonfi\desktop\ucsd\cse15l

Mode                LastWriteTime         Length Name
----                -
d-----         4/2/2024 10:27 AM             Lab_Reports
d-----         4/1/2024  9:25 AM             lecture1

PS C:\Users\jonfi\desktop\ucsd\cse15l> |
```

- directory path as argument:

- o Path before command: `C:\users\jonfi\desktop\ucsd\cse15l`
- o `ls lecture1` will display the contents of that directory without changing the directory to that path. This is useful to inspect contents before navigating to directories.

- o image:

```
PS C:\Users\jonfi\desktop\ucsd\cse15l> ls

Directory: C:\Users\jonfi\desktop\ucsd\cse15l

Mode                LastWriteTime         Length Name
----                -
d-----          4/2/2024  10:27 AM             Lab_Reports
d-----          4/1/2024   9:25 AM             lecture1

PS C:\Users\jonfi\desktop\ucsd\cse15l> ls lecture1

Directory: C:\Users\jonfi\desktop\ucsd\cse15l\lecture1

Mode                LastWriteTime         Length Name
----                -
d-----          4/1/2024   9:10 AM             messages
-a-----          4/1/2024   9:25 AM             792 Hello.class
-a-----          4/1/2024   9:10 AM             342 Hello.java
-a-----          4/1/2024   9:10 AM              73 README

PS C:\Users\jonfi\desktop\ucsd\cse15l> |
```

- Non existent argument:

- o Path before command: C:\users\jonfi\desktop\ucsd\cse15l
- o ls nonexistent will cause an error since the specified directory does not exist.
- o image:

```
PS C:\Users\jonfi\desktop\ucsd\cse15l> ls nonexistent
ls : Cannot find path 'C:\Users\jonfi\desktop\ucsd\cse15l\nonexistent' because it does not exist.
At line:1 char:1
+ ls nonexistent
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\Users\jonfi\...15l\nonexistent:String) [Get-ChildItem], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetChildItemCommand

PS C:\Users\jonfi\desktop\ucsd\cse15l> |
```

- file as argument:

- o Path before command: C:\users\jonfi\desktop\ucsd\cse15l\lab3
- o ls hello.txt will show the file information and the length of the file.

- o image:

```

Directory: C:\Users\jonfi\desktop\ucsd\cse15l\lab3

Mode                LastWriteTime         Length Name
----                -
-a-----          4/16/2024    9:58 AM             11 hello.txt

PS C:\Users\jonfi\desktop\ucsd\cse15l\lab3> ls hello.txt

Directory: C:\Users\jonfi\desktop\ucsd\cse15l\lab3

Mode                LastWriteTime         Length Name
----                -
-a-----          4/16/2024    9:58 AM             11 hello.txt

PS C:\Users\jonfi\desktop\ucsd\cse15l\lab3>

```

3. `cat` command

- printing contents of file

- o Path before command: `C:\users\jonfi\desktop\ucsd\cse15l\lab_reports\labReport1`
- o `cat cat1.txt` and `cat cat2.txt` will output the contents of the text files.
- o image:

```

Mode                LastWriteTime         Length Name
----                -
d-----          4/5/2024    3:39 PM         images
-a-----          4/4/2024    1:57 PM             5 cat1.txt
-a-----          4/4/2024    1:57 PM             5 cat2.txt
-a-----          4/5/2024    1:24 PM          799 FisherJon_Report1.md
-a-----          4/5/2024    3:36 PM          10 helloworld.txt

PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports\labReport1> cat cat1.txt
Hello
PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports\labReport1> cat cat2.txt
World
PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports\labReport1> |

```

- concatenate example

- Path before command: `C:\users\jonfi\desktop\ucsd\cse151\lab_reports\labReport1`
- using `cat cat1.txt cat2.txt > helloworld.txt` will combine the contents for the two files into a new file named helloworld.txt.
- image:

```
jon_fisher@DESKTOP-LSPJN32:/mnt/c/Users/jonfi/desktop/ucsd/cse151/lab_reports/labreport1$ cat cat1.txt
Hello
jon_fisher@DESKTOP-LSPJN32:/mnt/c/Users/jonfi/desktop/ucsd/cse151/lab_reports/labreport1$ cat cat2.txt
World
jon_fisher@DESKTOP-LSPJN32:/mnt/c/Users/jonfi/desktop/ucsd/cse151/lab_reports/labreport1$ cat cat1.txt cat2.txt > h
orld.txt
jon_fisher@DESKTOP-LSPJN32:/mnt/c/Users/jonfi/desktop/ucsd/cse151/lab_reports/labreport1$ cat helloworld.txt
HelloWorld
jon_fisher@DESKTOP-LSPJN32:/mnt/c/Users/jonfi/desktop/ucsd/cse151/lab_reports/labreport1$ |
```

• non existent argument

- Path before command: `C:\users\jonfi\desktop\ucsd\cse151\lab_reports\labReport1`
- using `cat nonexistent` will cause an error since the specified file does not exist.
- image:

```
PS C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labReport1> cat nonexistent
cat : Cannot find path 'C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labReport1\nonexistent' because it does not
exist.
At line:1 char:1
+ cat nonexistent
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\Users\jonfi\...rt1\nonexistent:String) [Get-Content], ItemNotFoundEx
ception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetContentCommand

PS C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labReport1> |
```

• directory as argument

- Path before command: `C:\users\jonfi\desktop\ucsd\cse151\lab_reports\labReport1`
- using `cat images` to try and print the contents of the images directory will result in an error. Even though the directory exists, cat will result in an error.
- image:

```
Directory: C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labreport1

Mode                LastWriteTime         Length Name
----                -
d-----          4/5/2024   5:40 PM              images
-a-----          4/4/2024   1:57 PM              5 cat1.txt
-a-----          4/4/2024   1:57 PM              5 cat2.txt
-a-----          4/5/2024   5:46 PM          2997 FisherJon_Report1.md
-a-----          4/5/2024   3:36 PM          10 helloworld.txt

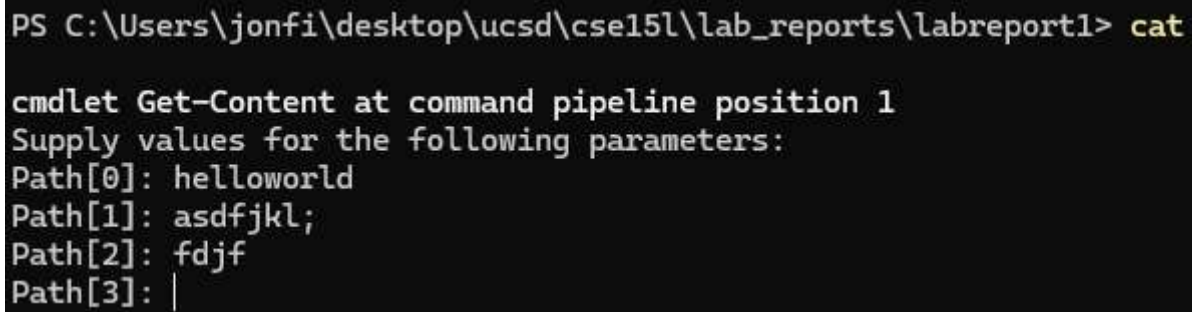
PS C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labreport1> cat images
cat : Access to the path 'C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labreport1\images' is denied.
At line:1 char:1
+ cat images
+ ~~~~~
+ CategoryInfo          : PermissionDenied: (C:\Users\jonfi\...breport1\images:String) [Get-Content], UnauthorizedAcce
ssException
+ FullyQualifiedErrorId : GetContentReaderUnauthorizedAccessError,Microsoft.PowerShell.Commands.GetContentCommand

PS C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labreport1> |
```

• no argument

- Path before command: `C:\Users\jonfi\desktop\ucsd\cse151\lab_reports\labreport1`

- using `cat` with no argument will read data from its standard input and write them to its standard output. It will wait for you to input stuff. This is not very useful for the most part.
- image:



```
PS C:\Users\jonfi\desktop\ucsd\cse15l\lab_reports\labreport1> cat

cmdlet Get-Content at command pipeline position 1
Supply values for the following parameters:
Path[0]: helloworld
Path[1]: asdfjkl;
Path[2]: fdjf
Path[3]: |
```

Conclusion:

This lab's objective was to develop a foundational understanding of basic Unix filesystem commands (`cd` , `ls` , and `cat`) and to introduce essential GitHub operations.

The exercises demonstrated the utility of the commands in file system navigation and manipulation, providing insight into common operational errors such as attempting to navigate into a file with `cd` or listing no-existent directories. Furthermore, the lab went over the functionality of GitHub for repository management and publication of content using GitHub Pages.

The completion of this lab has established some foundational experience in Unix command line proficiency and GitHub usage. These skills are essential for software development.