

Introduction to React



Taymaz Davoodi, M.Sc. Lecturer
tdavoodi@bu.edu

Office: (CDS-924)
Tue/Thu. 3PM-5PM

Welcome to CS-392

Web-App Development



CS-391

Blackboard

CS391 A1 Topics in Computer Science (Spring 2024)

Announcements

Weeks

Quizzes

Mini Projects

Final Project

Show and Tell

Documents

Staff

Grades

New announcements appear below this line

Welcome to CS-391

Posted on Monday, January 15, 2024 11:57:52 AM EST

Hi everyone,
I hope you have had a nice break so far and are ready to start a great Spring semester.
If this is your first year at BU, please familiarize yourself with the [Blackboard](#).

CS-391's Blackboard site has 8 active categories:

- **Announcement** is where you will see staff's messages to students.
- In the **Weeks** tab you will find [Lecture slides](#) and [Discussions](#) (categorized by the number of the week).
- You can use the **Quizzes** tab to take your quizzes when they are released.
- In the **Mini-Projects** tab, you will find the class assignments.
- The **Show and Tell** and the **Finals** tabs are empty for now, (we will discuss these in the last month of the class).
- In the **Staff** tab you can find the staff's info.
- In the **Documents** page you can find the [lectures/weekly schedules](#) and the [syllabus](#).

Please start **Dis-0** by navigating to **Weeks >> 0 >> Dis-0**. This assignment will help you install the software you need for this class, but if you were not able to complete this assignment or if it seems too difficult, do not worry, we will help you during our first Discussion on **Friday January 19th (DO NOT MISS THIS DISCUSSION)**.

Please read the [Syllabus Documents >> Syllabus](#).

If you have any questions feel free to contact me via email:

taymaz@bu.edu

See you all at our [first session](#) on **Thursday January 18th**.

Best,

Taymaz

Posted by: Taymaz Davoodi
Posted to: CS391 A1 Topics in Computer Science (Spring 2024)

Quiz-1

Quiz-2

Final-Project

Availability: Item is hidden from students.

Attached Files: [Final Project](#) (79.034 KB)

Syllabus

Tentative Schedule

Weekly Schedule

My Grades

Mini-Project-1

Attached Files: [mp1](#) (735.562 KB)

Mini-Project-2

Attached Files: [mp2](#) (1.497 MB)

Show & Tell

Attached Files: [Ant Design Rows and Columns](#) (421.425 KB), [Show and Tell_Typeit](#) (947.415 KB), [Express.js.pdf](#) (466.926 KB), [React Context](#) (221.748 KB)

- The [express.js](#) presented by URL:
- The [Type-It](#) presented by URL:
- The [Google API](#) presented by URL:
- The [React-Context](#) presented by URL:
- The [Ant-Design Grid](#) presented by URL:

Instructor: Taymaz Davoodi

Email: taymaz@bu.edu,
Office Location: CDS-304,
Office Hours: Thu - 5:00 pm to 7:00 PM Fri - 12:00 pm to 2:00 PM

Teaching Fellow: Jeffrey Ting

Join a lecture from students:
Email: jting@bu.edu,
Office Location: CDS-304A,
Office Hours: Mon/Wed 10:15 - 11:15AM



CS-391

IDE

Recommended:



WebStorm

Installation explained in Lab-0
(Free with BU email)

Acceptable:



VS Code

Will need SFTP extension or may
need FileZilla

NOT Recommended:



Sublime



BB Edit



Notepad++

Course Material

Required



Set-up a **GitHub** account with your **BU-email**



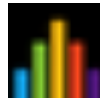
Set-up a **Vercel** account and connect your GitHub account to it.



Gradescope for Assignment Submissions



Piazza for Class Communications



Blackboard for Assignment Submissions

Web

Recommended:

<https://www.w3schools.com/>

<https://codepen.io/>

<https://html-css-js.com/>

<https://nextjs.org/docs>

<https://react.dev/reference/react>

Prohibited:



CourseHero



Chegg



ChatGPT



CS-391

Grading

| Weights (%) | | Points |
|-------------|-------------------|----------------------|
| 30 | Quizzes (5) | $30 \times 4 = 120$ |
| 20 | Mini-Projects (5) | $20 \times 4 = 80$ |
| 10 | Attendance | 24 Days est. |
| 20 | Final Project | 100 |
| 20 | Discussions (18) | $15 \times 10 = 150$ |
| 100 | | 464 |

- + 3% Show and Tell (Extra Credit)
- 2 Lowest **Quiz & Lab** are dropped
- 6 **Days** of absences are ignored (est.)

Collaboration

Prohibited:

- Copying all or part of someone else's work.
- Viewing all or part of someone else's work.
- Showing all or part of your work to another student.
- Consulting solutions from past semesters.
- posting your work where others can view it (e.g., online).

Collaboration Is Prohibited

(Unless Otherwise Stated)

(When) Permitted:

- Whom did you work with?
- What were their contributions?
- Where have you given them credit?

Attendance

Excused:

- Up to 6 days (est.)

Unexcused:

- (-1) point/day.

Acceptable Excuses (with documentation):

- Medical appointments/emergencies
- Faith-based holiday
- Job Interview
- Court order or Jury Service
- Death in Family

Unacceptable Excuses:

- Car broke down/traffic
- T/Metro/Bus broke down
- Forgot to set my alarm
- Missed flight
- Etc.



CS-391

Academic Misconduct

Cheating

- Cheating on an examination or assignment.
- Misrepresentation, falsification, or fabrication of data.
- Theft of an examination.
- Unauthorized communication during examinations.
- Knowingly allowing another student to represent your work as their own.
- Forgery, alteration, or knowing misuse of graded examinations, quizzes, grade lists, or official records or documents,
- Misrepresentation of identity
- Theft or destruction of examinations or papers
- Submitting substantially the same work in more than one course.

Plagiarism

Representing the work or ideas of another as your own; and/or using another's work or ideas without crediting the source.

Plagiarism includes, but is not limited to, the following:

- Copying the answers of another student on an examination.
- Copying or restating the work or ideas of another person or persons in any oral or written work (printed or electronic) without citing the appropriate source.
- Using audio or video footage that comes from another source (including work done by another student) without permission and/or acknowledgement of that source.
- Collaborating with someone else in an academic endeavor without acknowledging their contribution.
- Plagiarism can consist of acts of commission (appropriating the words or ideas of another as one's own), or omission (failing to acknowledge/document/credit the source or creator of words or ideas).

Consequences

- Reprimand
- Disciplinary Probation
- Suspension
- Expulsion
- Revocation of Degree

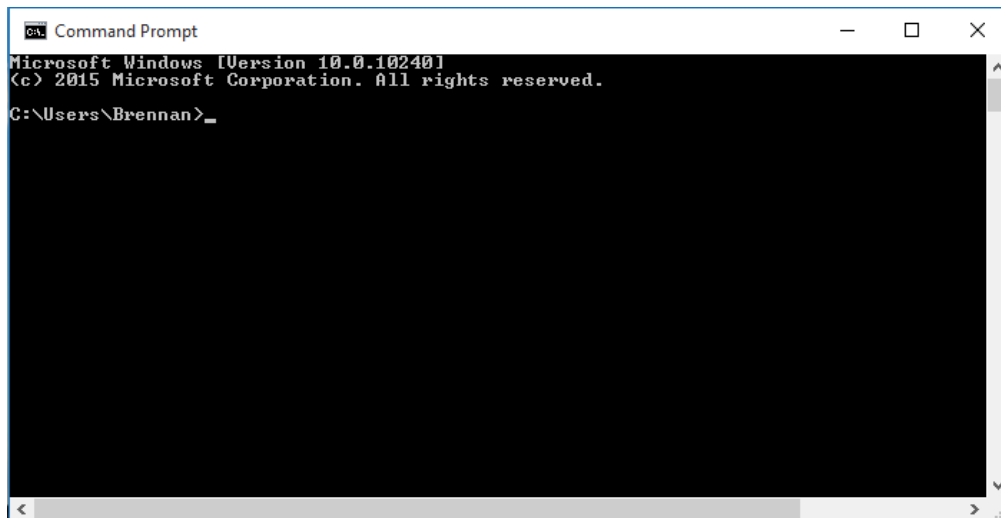


CS-391

Command Line Interfaces (CLI)

In CS-391, we will be using the **CMD** (PC) / **Terminal** (MAC), frequently.

CMD

A screenshot of the Windows Command Prompt window. The title bar reads "Command Prompt". The text inside shows the Microsoft Windows version (10.0.10240) and copyright information (© 2015 Microsoft Corporation). The current directory is C:\Users\Brennan>.

```
Microsoft Windows [Version 10.0.10240]
(c) 2015 Microsoft Corporation. All rights reserved.

C:\Users\Brennan>
```

Terminal

A screenshot of the macOS Terminal window. The title bar reads "Terminal — zsh — 80x24". The text inside shows the last login time and date, and the execution of two commands: 'defaults write com.apple.screencapture location ~/Documents' and 'killall SystemUIServer'. The prompt is '\$' followed by a cursor.

```
Terminal — zsh — 80x24
Last login: Fri Sep  3 14:27:54 on ttys000
$ defaults write com.apple.screencapture location ~/Documents
$ killall SystemUIServer
$
```

CS-391

Command Line Interfaces (CLI)

If you haven't had much experience with these CLIs, please familiarize yourself

CMD

C:\>

| Window Command |
|--|
| Hit the "Windows" key -> Type in "cmd" -> Hit "Enter" |
| cd directoryWanted |
| cd directoryWanted\SecondDirectory Wanted |
| cd .. |
| dir |
| cls |
| mkdir FolderName |
| rmdir FolderName * |
| rmdir /s FolderName |
| cd.> FileName.type |
| del FileName.txt |
| cd\ |
| Windows will find the first alphabetical match. Hit "tab" again to find the desired Directory/File |

| Action |
|---|
| Open Terminal |
| Change Directory |
| Change Directory more than one step |
| Step Back one directory(Parent Directory |
| View Content of Directory |
| Clear the Terminal |
| Create New Directory |
| Delete Empty Directory |
| Delete Directory and its content |
| Create New File |
| Delete File |
| Going Back to root |
| Auto-Complete Tab Button |

| Mac Command |
|---|
| cmd + spacebar -> Type in "terminal" -> Hit "Enter" |
| cd directoryWanted |
| cd directoryWanted/SecondDirectory Wanted ** |
| cd .. |
| ls |
| cmd + k |
| mkdir FolderName |
| rmdir FolderName * |
| rm -R FolderName |
| touch FileName.type |
| rm FileName.type |
| cd |
| Mac will require more information to distinguish which Directory/File is needed |

Terminal

> _

CS-391

All of your assignments (Mini-Projects) **must** be:

Deployed



Covered in Dis-0

Hosted



Covered in Dis-1

Submitted



Explained in MP-1

Note:

DON'T UPDATE/PUSH/change your assignment's GitHub repo after the **due-date. **Altering your assignment after its due-date is considered cheating**, and at minimum, will result in an automatic 0 on that assignment.**

You may change or alter that repository after you received a grade on that assignment.



CS-391

Deployment

There are different ways to deploy your assignments to GitHub. You can use a Git Management tool like GitHub-Desktop or you could just drag/drop your files to GitHub, but as CS-students you should know how to deploy your codes using **Terminal/CMD**.

First you have to download **Git** on your local machine

We Recommend



Git BASH

Included with Git download



Homebrew

Download: <https://brew.sh/>

After downloading and installing Git using an installer, you need to set your **Global Git configurations**

```
~ % git config --global user.name "Taymaz Davoodi"  
~ % git config --global user.email "tdavoodi@bu.edu"
```



CS-391

Deployment

To connect your local-machine to GitHub, type the following commands in your Terminal/CMD

To be able to create a secure connection you should create a Secure Shell (SSH) key

```
~ % ssh-keygen
```

The Terminal/CMD will ask you a series of questions, to which you could just press **enter**

```
Enter file in which to save the key (/Users/taymazdavoodi/.ssh/id_ed25519):  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:
```

The Terminal/CMD will automatically generate, and save an **SSH-Key**

```
Your identification has been saved in /Users/taymazdavoodi/.ssh/id_ed25519  
Your public key has been saved in /Users/taymazdavoodi/.ssh/id_ed25519.pub  
The key fingerprint is:  
SHA256:CKv78TXRPKDQ7SD+vBsJ1R/6QdadvYmaAh0m03QYkYI taymazdavoodi@crc-dot1x-nat-10-239-151-251.bu.edu
```

If you closed your terminal you can always find your key again via terminal/CMD

Your public key has been saved in
/Users/**YOUR_USERNAME**/.ssh/id_**YOUR_ID**.pub

To get to your key you need to display the content of id_**YOUR_ID**.pub file

```
taymazdavoodi@crc-dot1x-nat-10-239-151-251 .ssh % cat id_ed25519.pub  
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIOcq5t4xz0dpiJq1nJ/g/VSHgc8ETjYymj/qQ+uFwcTJ
```

Copy **YOUR SSH-Key** to clipboard

```
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIOcq5t4xz0dpiJq1nJ/g/VSHgc8ETjYymj/qQ+uFwcTJ
```

Don't copy this one



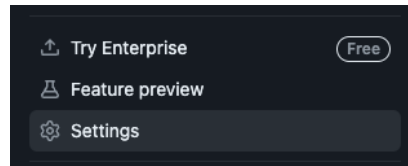
CS-391

Deployment

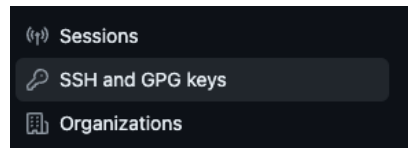
Sign-in to your account on GitHub, find your avatar (top-right corner)



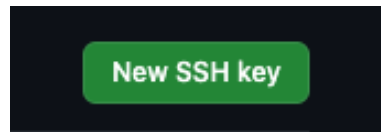
Click on your Avatar and navigate down to the Settings



From the Settings page, navigate down to SSH and GPG keys



Find the New SSH key button and click on it.



Add a Title for your local machine (e.g., Taymaz's Computer), paste **YOUR SSH-Key**, and click on Add SSH key

Never share your Key

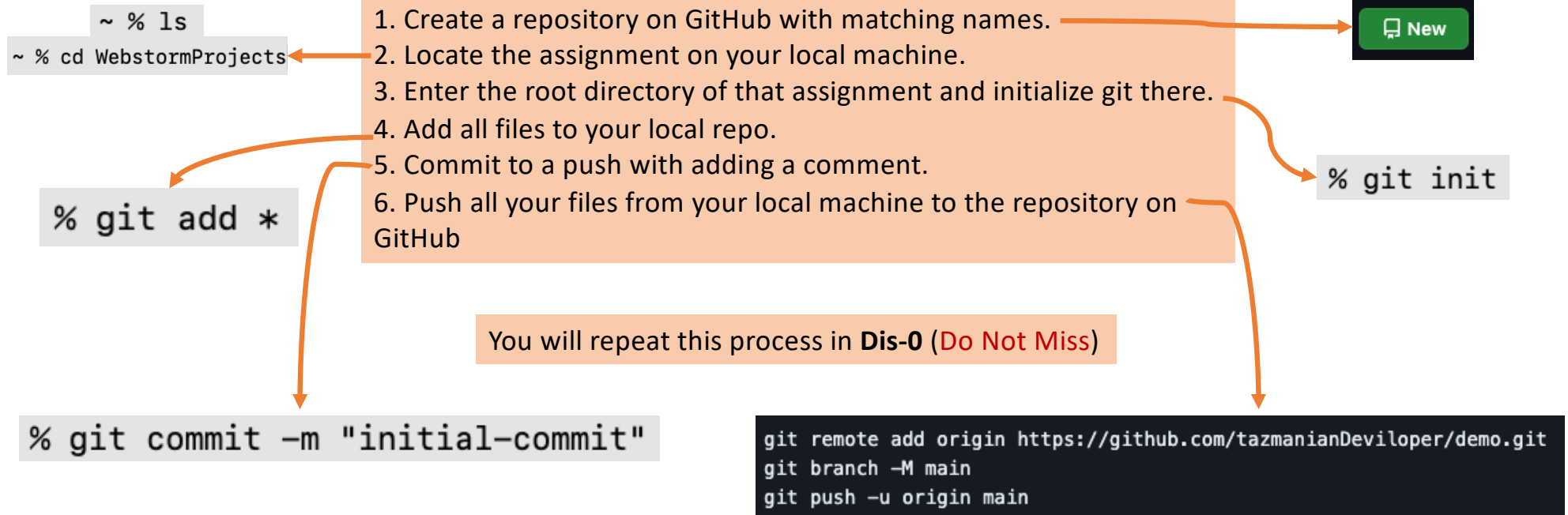
The screenshot shows the 'Add new SSH Key' form in GitHub. It has a dark theme. The form includes a 'Title' field with the value 'test'. The 'Key type' is set to 'Authentication Key'. The 'Key' field contains a long alphanumeric string: 'ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIOcq5t4xzOdpiJq1nJ/g/VSHgc8ETjYymj/qQ+uFwcTJ'. At the bottom, there is a green 'Add SSH key' button.



CS-391

Deployment

When you are done with each and every assignment (Mini-Projects), you **must** deploy that assignment to GitHub



If done correctly, you should be able to see your assignment files on GitHub, (**Save the URL**)



CS-391

Hosting

Once your assignment files are on GitHub, you can have them hosted via **Vercel**.

Setup a “**Hobby**” account

Create Your Vercel Account

Plan Type

Hobby
I'm working on personal projects

Pro
I'm working on commercial projects

Your Name
Taymaz Davood

Continue

Need enterprise scale and security?
Talk to our sales team about your requirements, learn about custom pricing, or request a demo.

By joining, you agree to our [Terms of Service](#) and [Privacy Policy](#)

Connect GitHub to Vercel

Let's connect your Git provider

Continue with GitHub

Continue with GitLab

Continue with Bitbucket

Continue with Email

*Usually, no additional configuration is needed, just click **Deploy***

Configure Project

Project Name
demo

Framework Preset
Other

Root Directory
./

Build and Output Settings

Environment Variables

Deploy

Import your assignment's repo

Import Git Repository

tazmanianDeveloper

demo · 21h ago

cs-391-lec-2 · 2d ago

dis-2 · 3d ago

nextjs-dashboard · 9d ago

vite · 15d ago

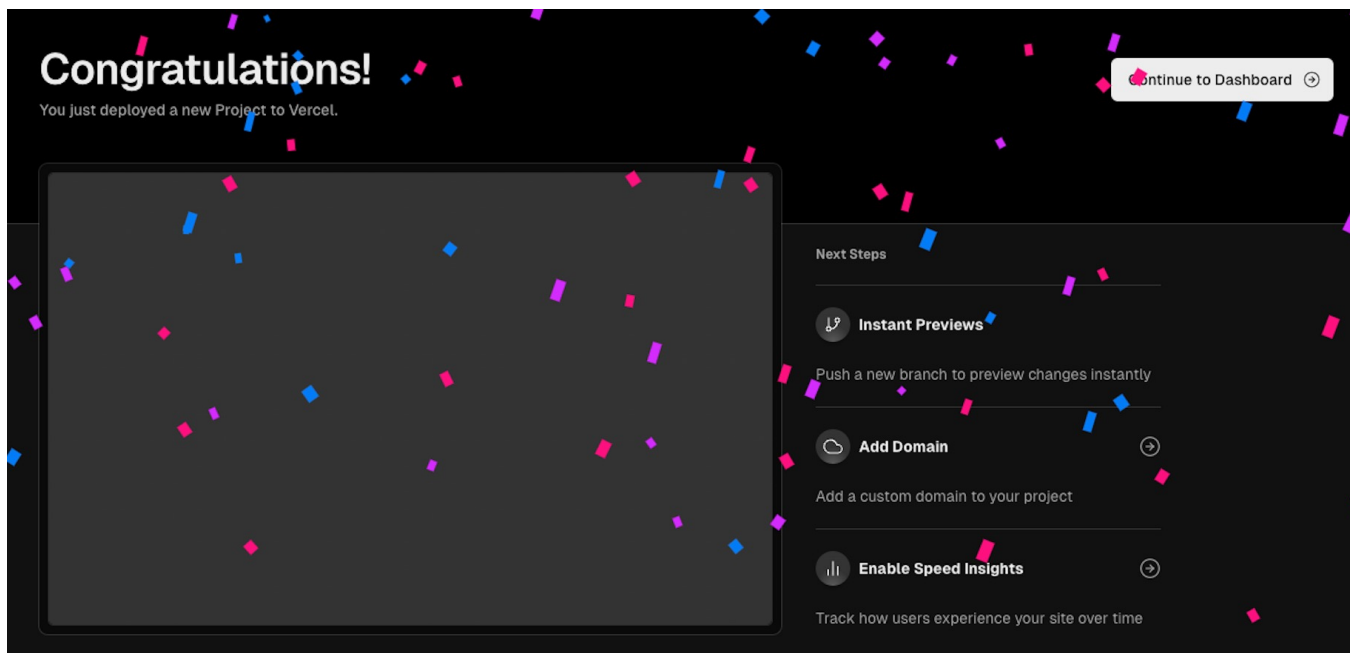
Import Third-Party Git Repository



CS-391

Hosting

Once you click Deploy, after a few seconds, Vercel will host your assignment on the internet, and prompt you with *Congratulations* message and a screen shot of your hosted assignment.



If done correctly, you should be able to see click on that screen shot, which would open a new browser tab to your assignment (**Save the URL**)



CS-391

Submission

You have to submit both **URLs** (GitHub and Vercel) to the GradeScope

Create a simple textual file (.txt)

Paste both **URLs** (these are examples):

<https://github.com/tazmanianDeviloper/demo>

<https://demo-xi-ten-35.vercel.app/>

Convert to PDF and submit it to the GradeScope

Note:

- Make sure your links lead to your assignment, if they don't graders will give you a **zero (0)** and there is no make-up
- Do not share your assignment URLs with other students; assignments must be completed individually.
- Do not push/update/change your code on GitHub after the due date of an ungraded assignment.

CS-391

Terminal/CMD

| Windows CMD | Task | Mac OS Terminal |
|--|---|---|
| <code>dir</code> | List files and folders | <code>ls</code> |
| <code>cd</code> | Full path of current folder/directory | <code>pwd</code> |
| <code>cd <path to directory></code> | Change folder/directory | <code>cd <path to directory></code> |
| <code>cd..</code> | One directory up in directory tree | <code>cd ..</code> |
| <code>cd</code> | Move to root directory | <code>cd /</code> |
| <code>mkdir newFolder</code> | Create new directory in current directory | <code>mkdir myFolder</code> |
| <code>echo some-text > fileName(.txt)</code> | Create new file | <code>cat > fileName(.txt)</code> |
| <code>rmdir myFolder</code> | Remove a directory* | <code>rmdir myFolder</code> |
| <code>ren oldFolderName newFolderName</code> | Rename a directory | <code>mv oldFolderName newFolderName</code> |
| <code>robocopy myFolder <path to destination directory></code> | Copy a directory | <code>cp -r myFolder <path to destination directory></code> |
| <code>move myFolder <path to destination directory></code> | Move a directory | <code>mv myFolder <path to destination directory></code> |
| <code>del myFile</code> | Remove a file* | <code>rm myFile</code> |
| <code>ren oldFileName newFileName</code> | Rename a file | <code>mv oldFileName newFileName</code> |
| <code>copy myFile <path to destination directory></code> | Copy a file | <code>cp myFile <path to destination directory></code> |
| <code>move myFile <path to destination directory></code> | Move a file | <code>mv myFile <path to destination directory></code> |
| <code>cls</code> | Clear the terminal screen | <code>clear</code> |