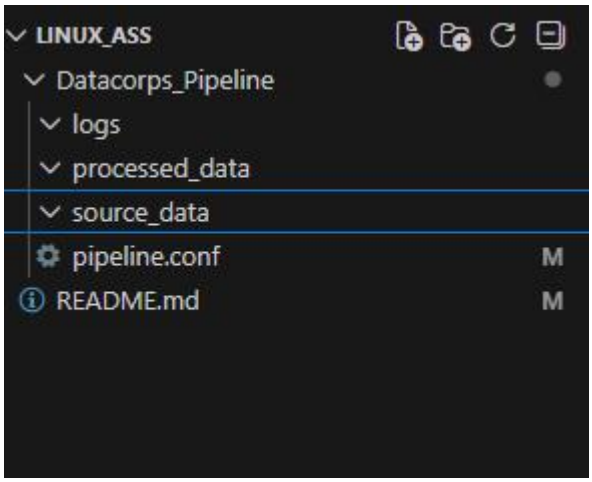
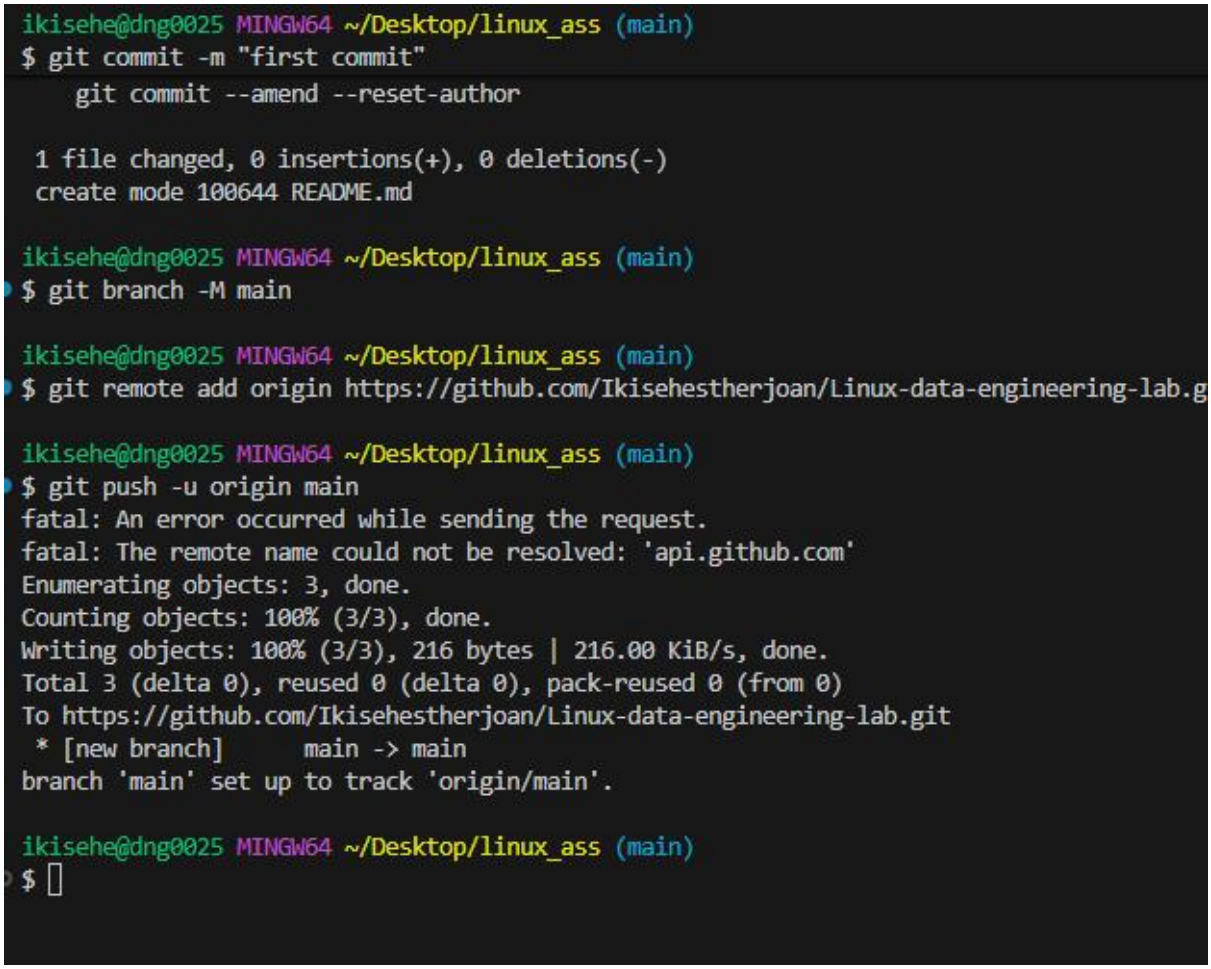
```
ikisehe@dng0025 MINGW64 ~/Desktop/linux_ass
$ touch assignment_1

ikisehe@dng0025 MINGW64 ~/Desktop/linux_ass
$ git init
Initialized empty Git repository in C:/Users/ikisehe/Desktop/linux_ass/.git/

ikisehe@dng0025 MINGW64 ~/Desktop/linux_ass (main)
$ git add .

ikisehe@dng0025 MINGW64 ~/Desktop/linux_ass (main)
$ git commit -m "first commit"
[main (root-commit) a86bb2f] first commit
 Committer: Ikiseh Esther-Joan <ikisehe@dng.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

    git config --global user.name "Your Name"
    git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 README.md

ikisehe@dng0025 MINGW64 ~/Desktop/linux_ass (main)
$ git branch -M main
```





Task Instructions

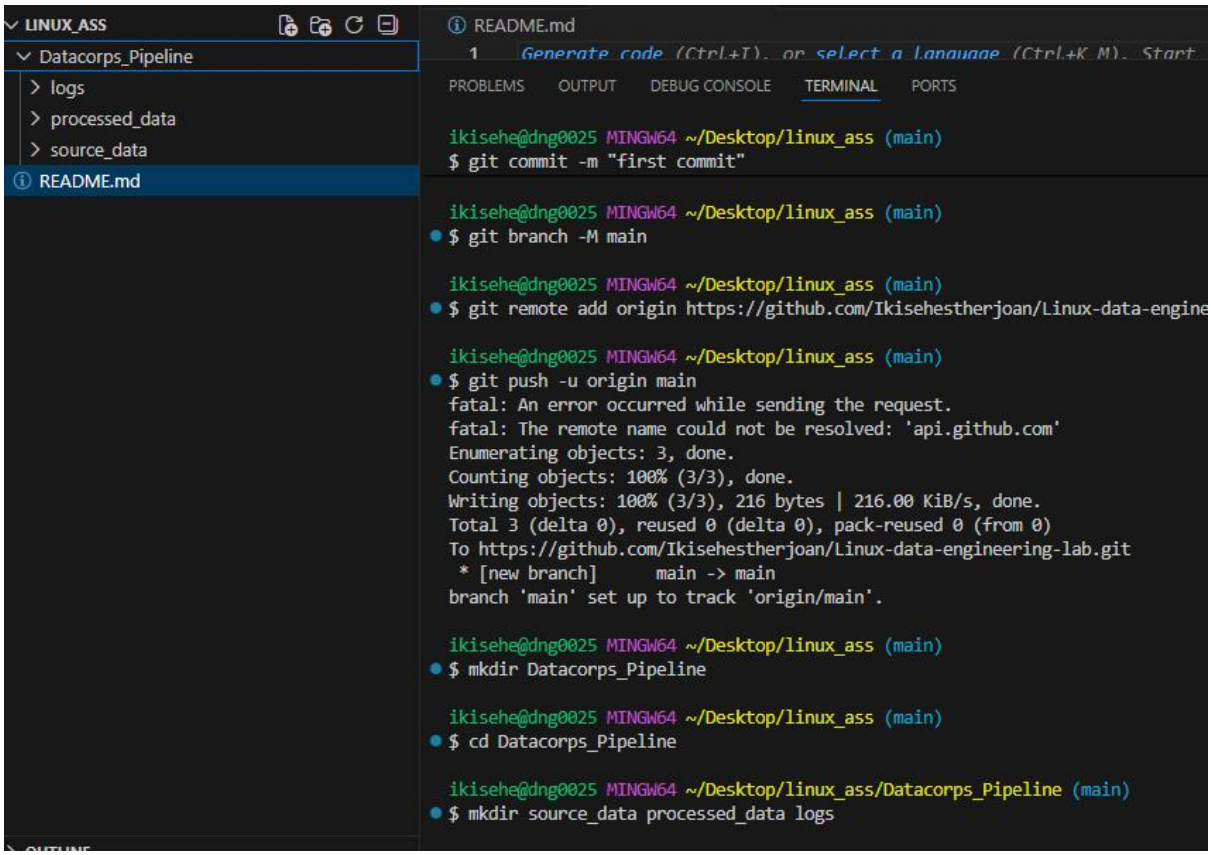
Part 1: File System Navigation & Structure

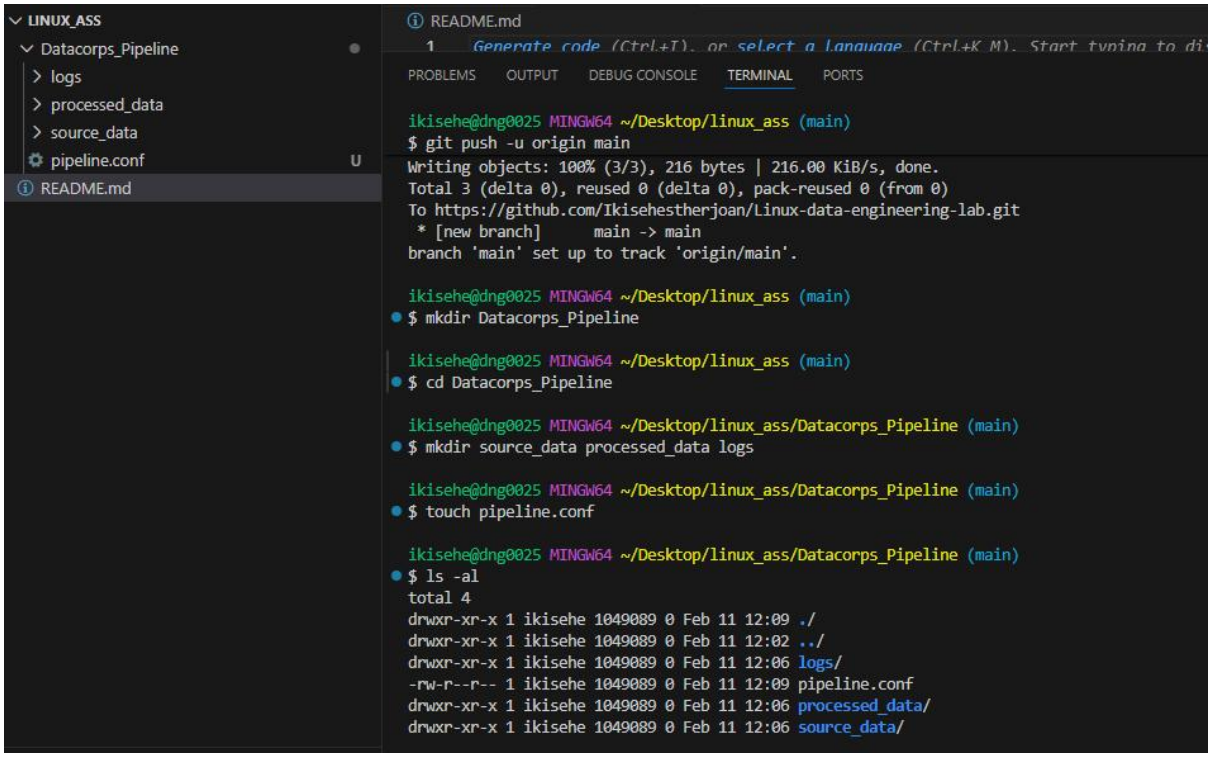
Goal: Create the directory structure required for the data pipeline.

1. Navigate to your repository directory in your terminal.
2. Create a directory named datacorp_pipeline.
3. Inside datacorp_pipeline, create three sub-directories:

- source_data
- processed_data
- logs

4. Create an empty file named pipeline.conf inside the datacorp_pipeline directory.
5. List the contents of the datacorp_pipeline directory to verify the structure.





Part 2: File Permissions & Ownership

Goal: Secure the sensitive source data.

1. Navigate into the datacorp_pipeline directory.
2. Change the permissions of the source_data directory so that **only the owner** has Read, Write, and Execute permissions. No one else (Group or Others) should have any access.
3. Verify the permission change by listing the directory details in "long format".

```
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass$ cd Datacorps_Pipeline
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ ls -al
total 0
drwxrwxrwx 1 esther esther 4096 Feb 11 12:09 .
drwxrwxrwx 1 esther esther 4096 Feb 11 12:02 ..
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 logs
-rwxrwxrwx 1 esther esther    0 Feb 11 12:09 pipeline.conf
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 processed_data
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 source_data
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ chmod 700 source_data
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ ls -l
total 0
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 logs
-rwxrwxrwx 1 esther esther    0 Feb 11 12:09 pipeline.conf
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 processed_data
drwx------ 1 esther esther 4096 Feb 11 12:06 source_data
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$
                                                    Ln 1, Col 1  Spaces: 4  UTF-8
```

Part 3: Environment Variables

Goal: Set up environment configurations for the pipeline.

1. Create a temporary environment variable named ETL_STAGE and set its value to staging.
2. Print the value of ETL_STAGE to the terminal to verify it is set.

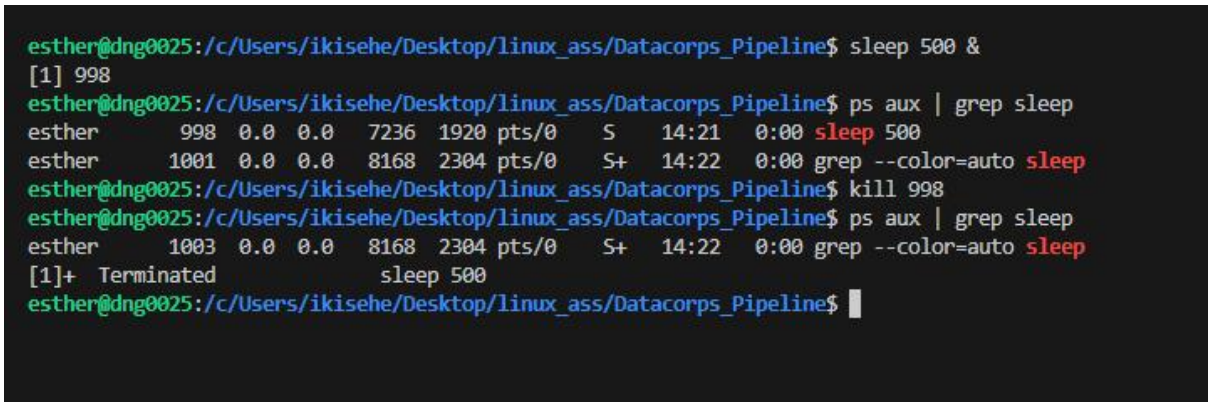
```
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ export ETL_STAGE=staging
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ echo $ETL_STAGE
staging
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$
```

Part 4: Process Management

Goal: Manage a "stuck" background process.

1. Start a "dummy" process that sleeps for 500 seconds in the background. (Hint: Use the sleep command combined with an operator to push it to the background).

2. Find the **Process ID (PID)** of this sleep command using a process listing tool.
3. Kill the process using its PID.
4. Verify the process is gone.



Part 5: Package Management

(Skip this step if using Git Bash on Windows) **Goal:** Ensure the server has necessary monitoring tools.

1. Update your system's package repository lists.
2. Install a command-line system monitor tool called htop.
3. Run htop to verify it is installed, then quit the application.

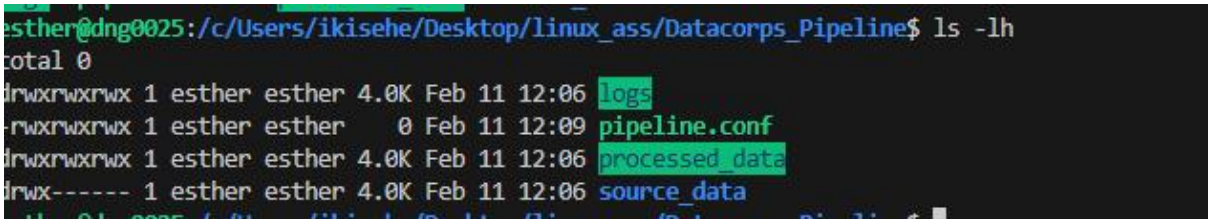
```
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ sudo --version
Sudo version 1.8.31
Sudoers policy plugin version 1.8.31
Sudoers file grammar version 46
Sudoers I/O plugin version 1.8.31
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ sudo apt update
[sudo] password for esther:
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://archive.ubuntu.com/ubuntu focal-updates InRelease [128 kB]
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [128 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal-backports InRelease [128 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [3957 kB]
Fetched 4341 kB in 7s (586 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ sudo apt install htop
Reading package lists... Done
Building dependency tree
Reading state information... Done
htop is already the newest version (2.2.0-2build1).
htop set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ htop
```

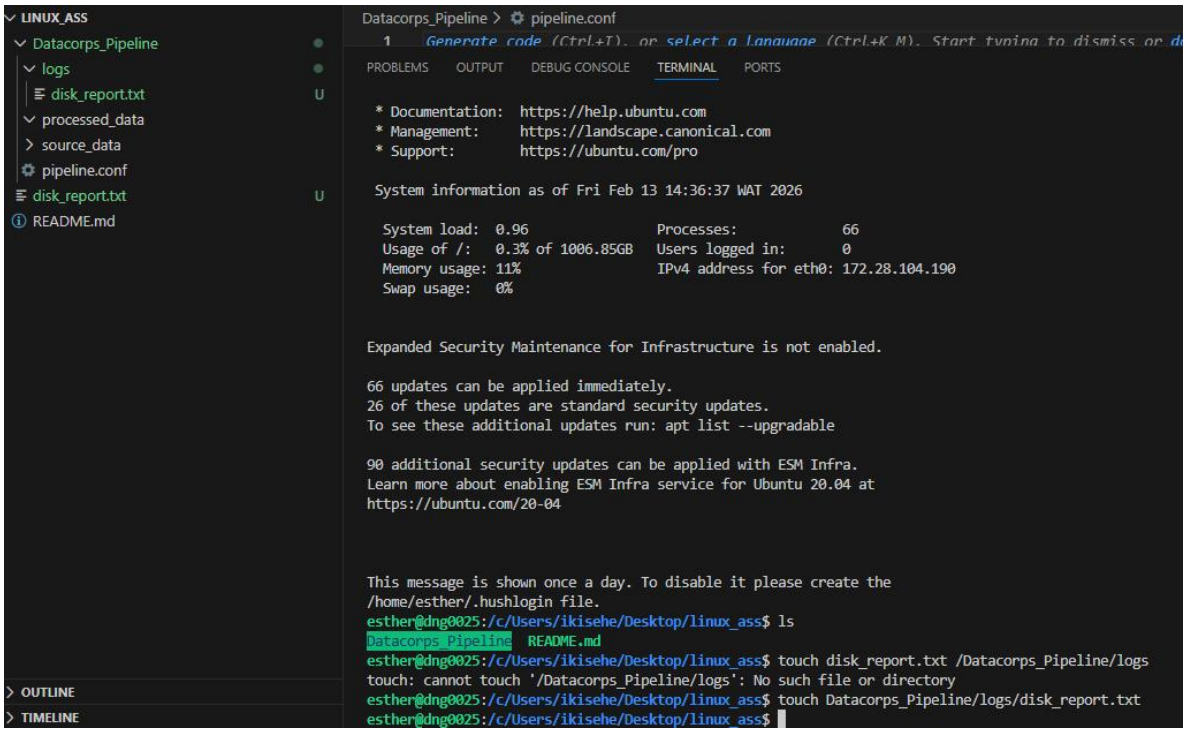
```
  1 [                0.0%]   4 [                0.0%]   7 [                0.0%]   10 [                0.0%]
  2 [                0.0%]   5 [                0.0%]   8 [                0.0%]   11 [                0.0%]
  3 [                0.0%]   6 [                0.0%]   9 [                0.0%]   12 [                0.0%]
  Mem[||||||||||                          388M/3.68G]   Tasks: 36, 56 thr; 1 running
  Swp[                                      0K/1.00G]   Load average: 0.01 0.00 0.00
                                                        Uptime: 01:44:01

    PID USER      PRI  NI  VIRT   RES   SHR S CPU% MEM%   TIME+  Command
      1 root       20   0  166M 10872  8184 S  0.0  0.3  0:01.41 /sbin/init
      8 root       20   0  3072  1920  1792 S  0.0  0.0  0:00.00 /init
      2 root       20   0  3072  1920  1792 S  0.0  0.0  0:00.01 /init
      7 root       20   0  3072  1792  1792 S  0.0  0.0  0:00.00 plan9 --control-socket 7 --log-level 4 --server-fd 8 --pi
      6 root       20   0  3072  1792  1792 S  0.0  0.0  0:00.00 plan9 --control-socket 7 --log-level 4 --server-fd 8 --pi
     58 root       19  -1 52124 14084 13316 S  0.0  0.4  0:00.42 /lib/systemd/systemd-journald
     82 root       20   0 23332  5504  3712 S  0.0  0.1  0:00.52 /lib/systemd/systemd-udevd
     92 systemd-n  20   0 19088  7296  6528 S  0.0  0.2  0:00.17 /lib/systemd/systemd-networkd
    276 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.05 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    280 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.03 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    500 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.04 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    528 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    556 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    557 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    561 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    563 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    564 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    273 root       20   0  652M  7644  1408 S  0.0  0.2  0:00.18 snapfuse /var/lib/snapd/snaps/core20_2686.snap /snap/core
    277 root       20   0 85588  1152  1024 S  0.0  0.0  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2682.snap /snap/core
    279 root       20   0 85588  1152  1024 S  0.0  0.0  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2682.snap /snap/core
    275 root       20   0 85588  1152  1024 S  0.0  0.0  0:00.00 snapfuse /var/lib/snapd/snaps/core20_2682.snap /snap/core
    283 root       20   0 85588  1152  1024 S  0.0  0.0  0:00.00 snapfuse /var/lib/snapd/snaps/lxd_32662.snap /snap/lxd/32
F1Help  F2Setup F3SearchF4FilterF5Tree  F6SortByF7Nice -F8Nice +F9Kill  F10Quit
                                                                    Ln 1, Col 1   Spaces: 4   UTF-8   CRLF   {} Markdown
```

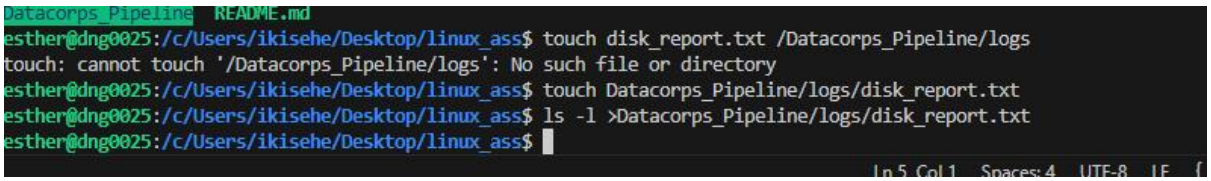
Part 6: System Monitoring & I/O Redirection

Goal: Check server capacity and save the report.

1. Run a command that displays the **disk space usage** of your system in a "human-readable" format.
2. Instead of printing this to the screen, redirect the output to a file named disk_report.txt inside your logs directory.
3. Use a command to display the contents of logs/disk_report.txt to the terminal to verify it worked.







```
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass$ cat Datacorps_Pipeline/logs/disk_report.txt
total 0
drwxrwxrwx 1 esther esther 4096 Feb 11 12:09 Datacorps_Pipeline
-rwxrwxrwx 1 esther esther    0 Feb 10 15:26 README.md
-rw-r--r-- 1 esther esther    0 Feb 13 14:49 disk_report.txt
```

```
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass$ ls -l
total 0
drwxrwxrwx 1 esther esther 4096 Feb 13 15:58 Datacorps_Pipeline
-rwxrwxrwx 1 esther esther    0 Feb 10 15:26 README.md
-rw-r--r-- 1 esther esther    0 Feb 13 14:49 disk_report.txt
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass$ cd Datacorps_Pipeline
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ ls
Daily_maintenance.sh  logs  pipeline.conf  processed_data  source_data
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ ls -l
total 0
-rw-r--r-- 1 esther esther   83 Feb 13 16:06 Daily_maintenance.sh
drwxrwxrwx 1 esther esther 4096 Feb 13 14:58 logs
-rwxrwxrwx 1 esther esther    0 Feb 11 12:09 pipeline.conf
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 processed_data
drwx------ 1 esther esther 4096 Feb 11 12:06 source_data
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ chmod +x Daily
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ ls -l
total 0
-rwxr-xr-x 1 esther esther   83 Feb 13 16:06 Daily_maintenance.sh
drwxrwxrwx 1 esther esther 4096 Feb 13 14:58 logs
-rwxrwxrwx 1 esther esther    0 Feb 11 12:09 pipeline.conf
drwxrwxrwx 1 esther esther 4096 Feb 11 12:06 processed_data
drwx------ 1 esther esther 4096 Feb 11 12:06 source_data
```

```
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$ ./Daily_maintenance.sh
Starting daily maintenance on Today is Friday, 13 February 2026
esther@dng0025:/c/Users/ikisehe/Desktop/linux_ass/Datacorps_Pipeline$
```