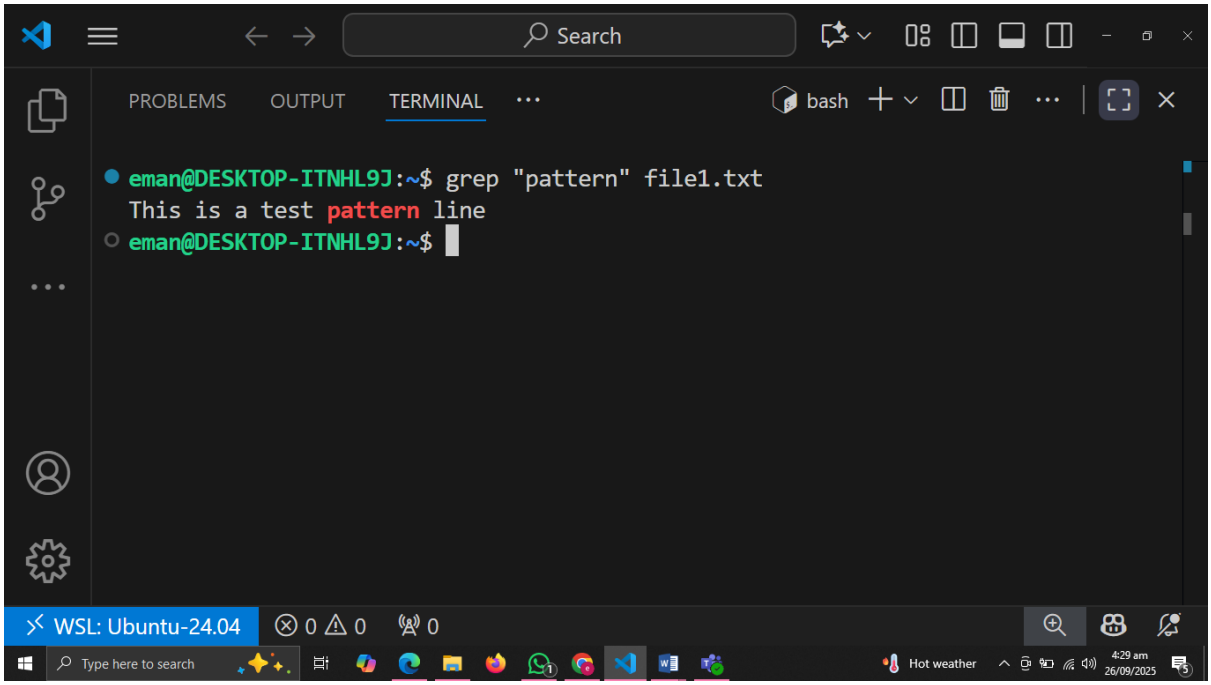
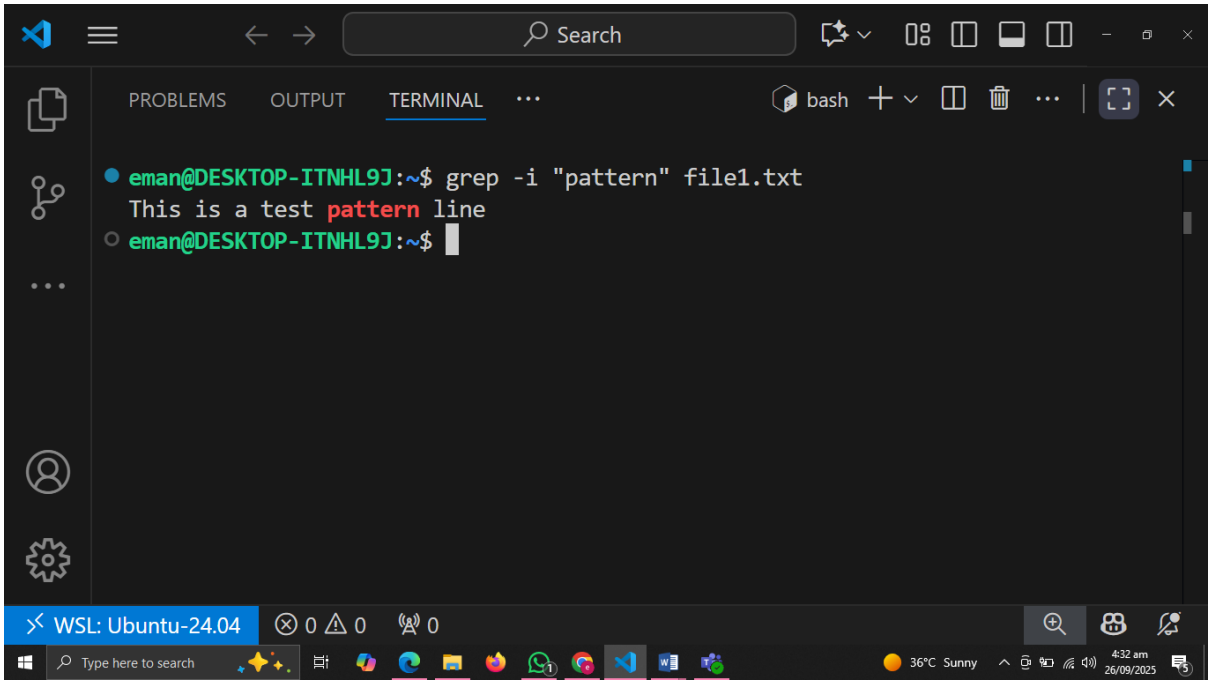
Part 5: Text Processing and Utilities

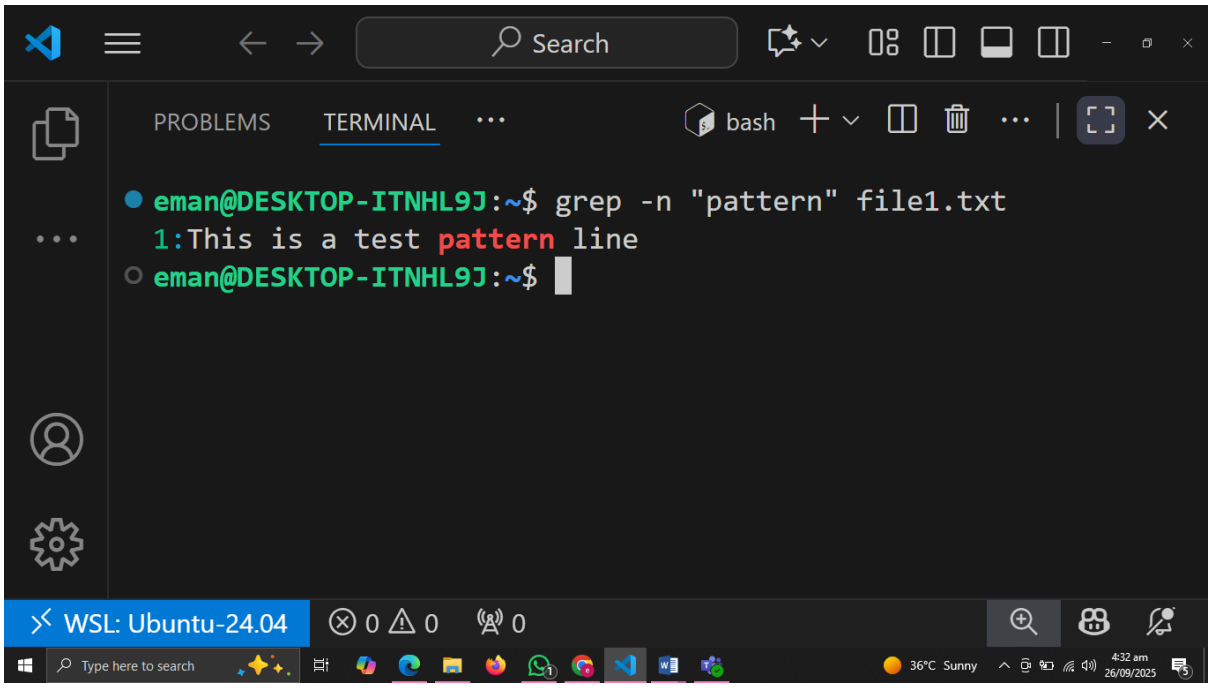
5.1 Essential Text Commands

Commands to demonstrate

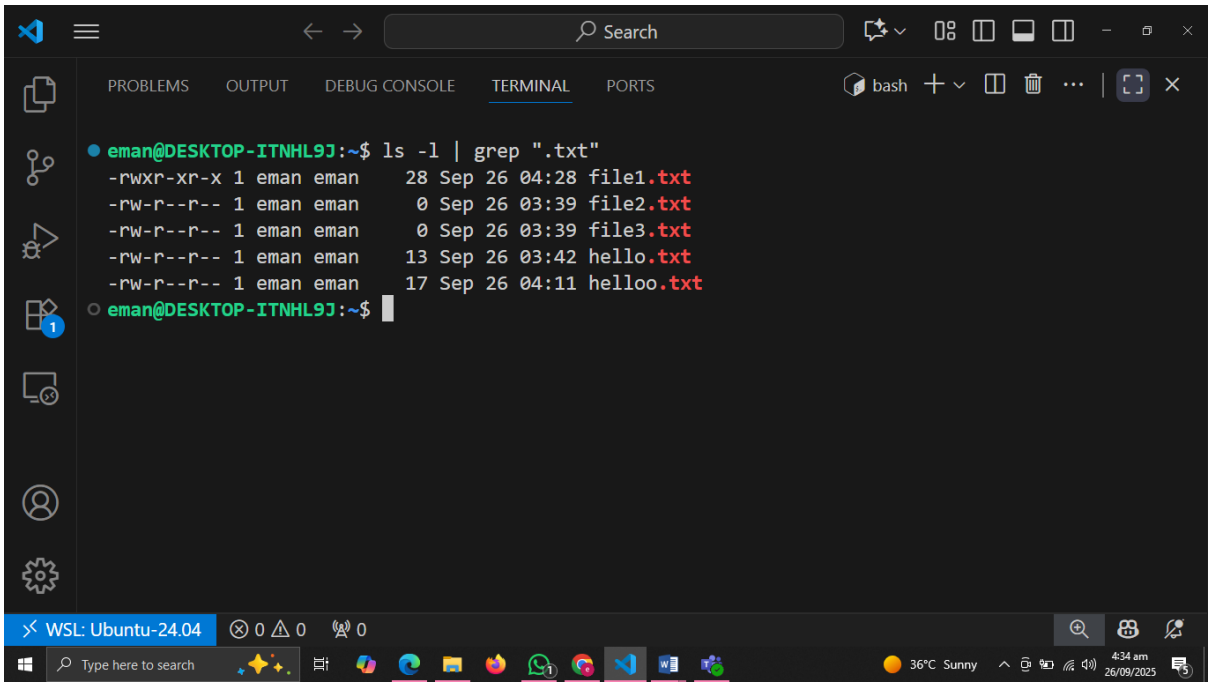
- grep

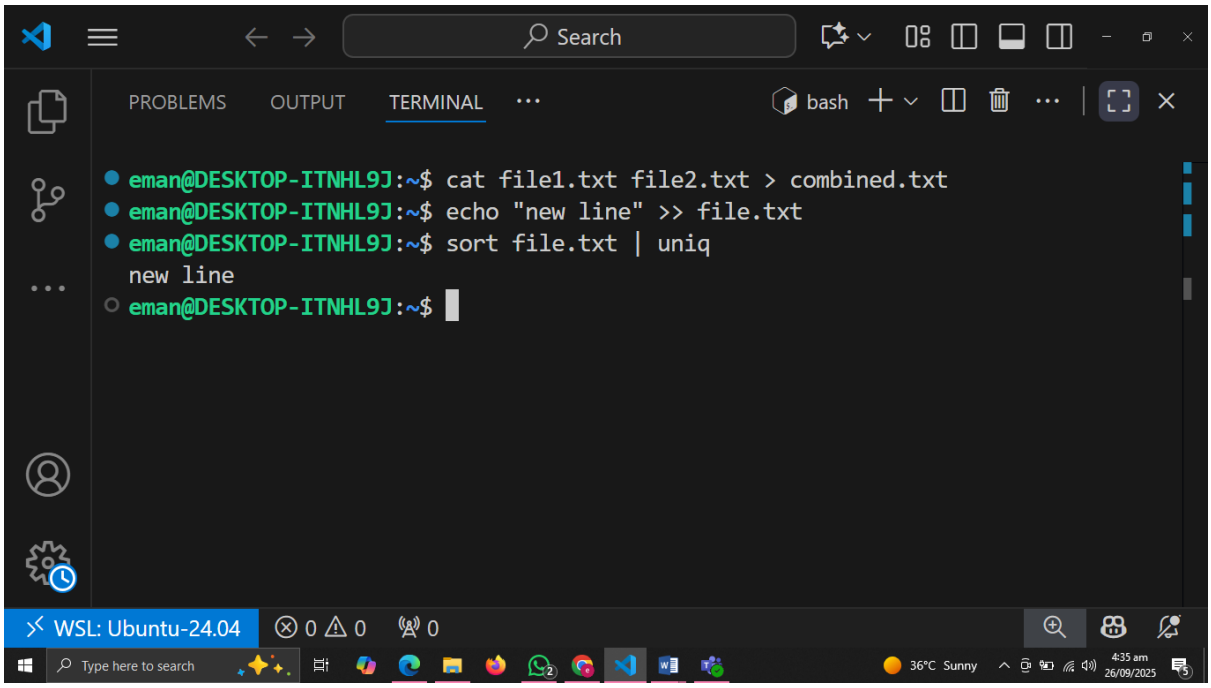






5.2 Pipes and Redirection

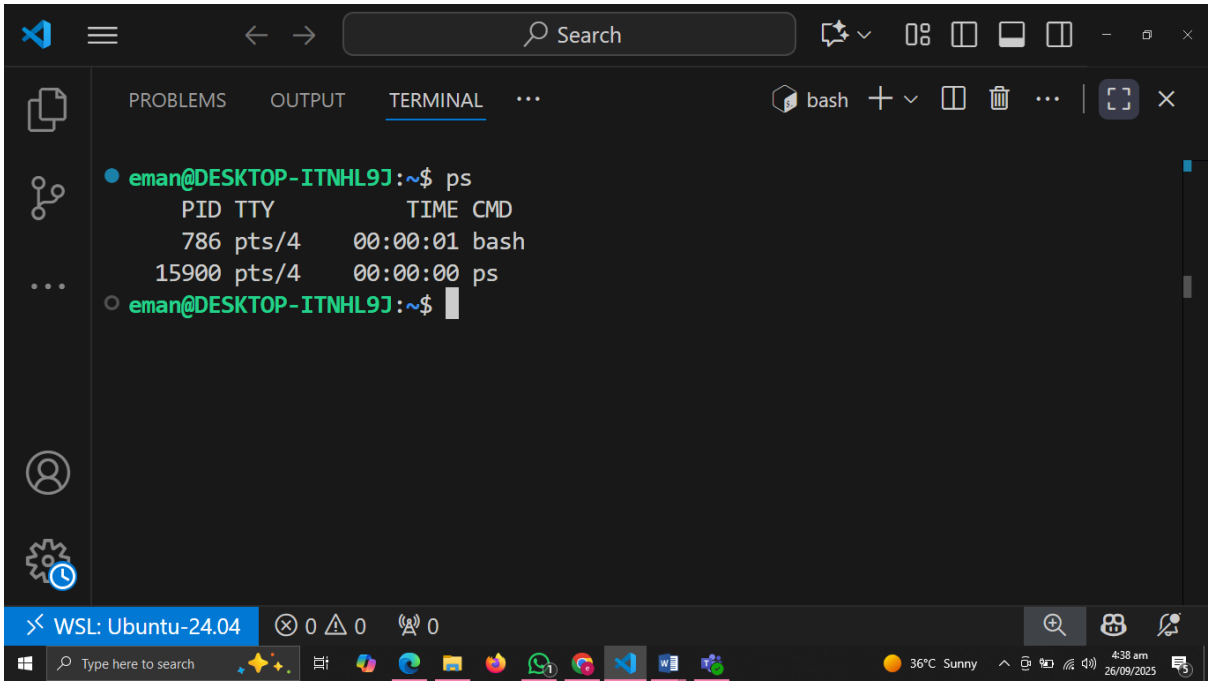




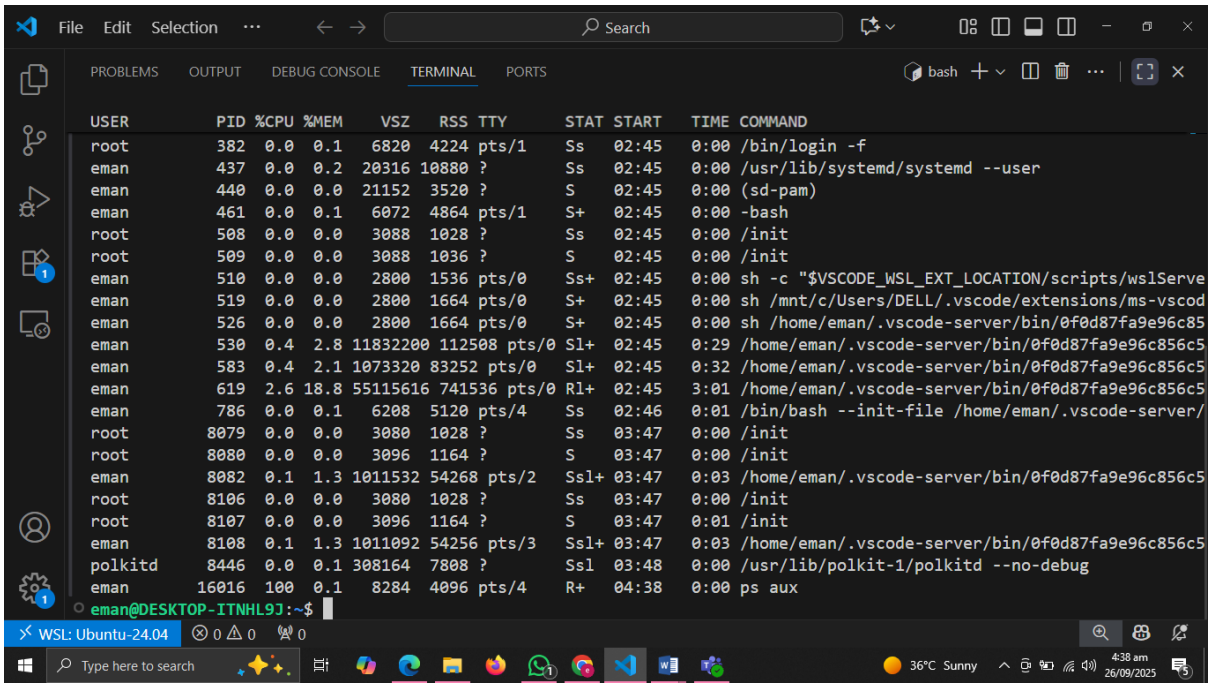
Part 6: Introduction to Processes

6.1 Understanding Processes

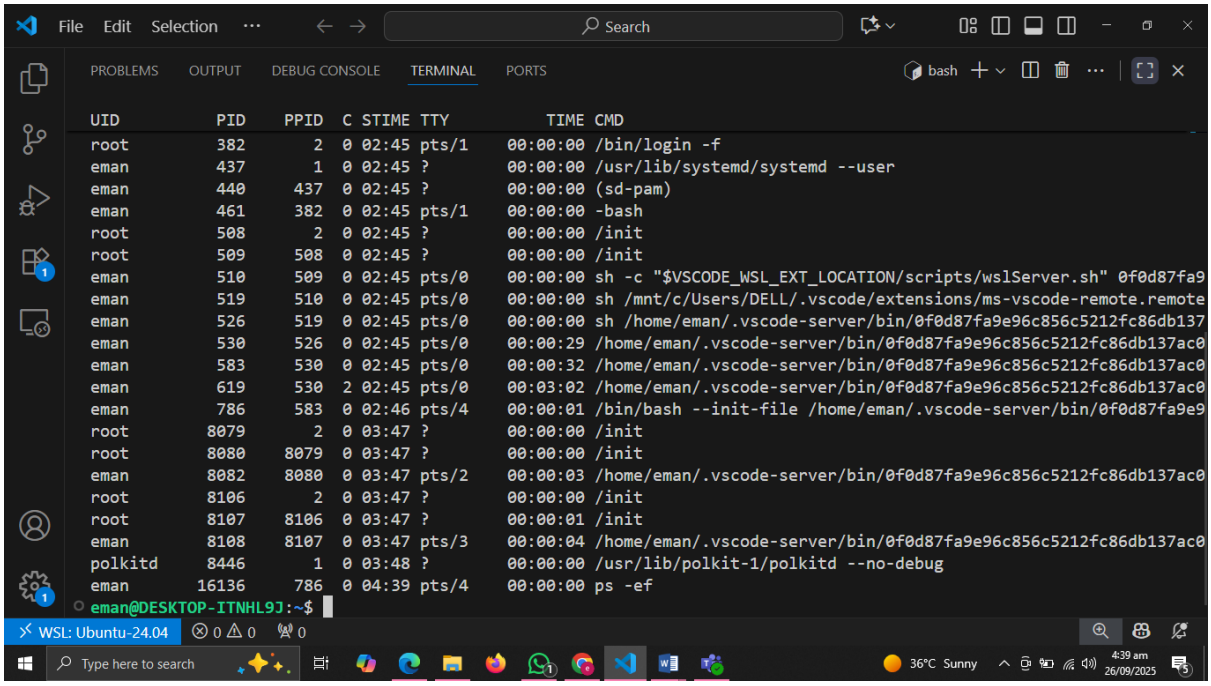
- ps



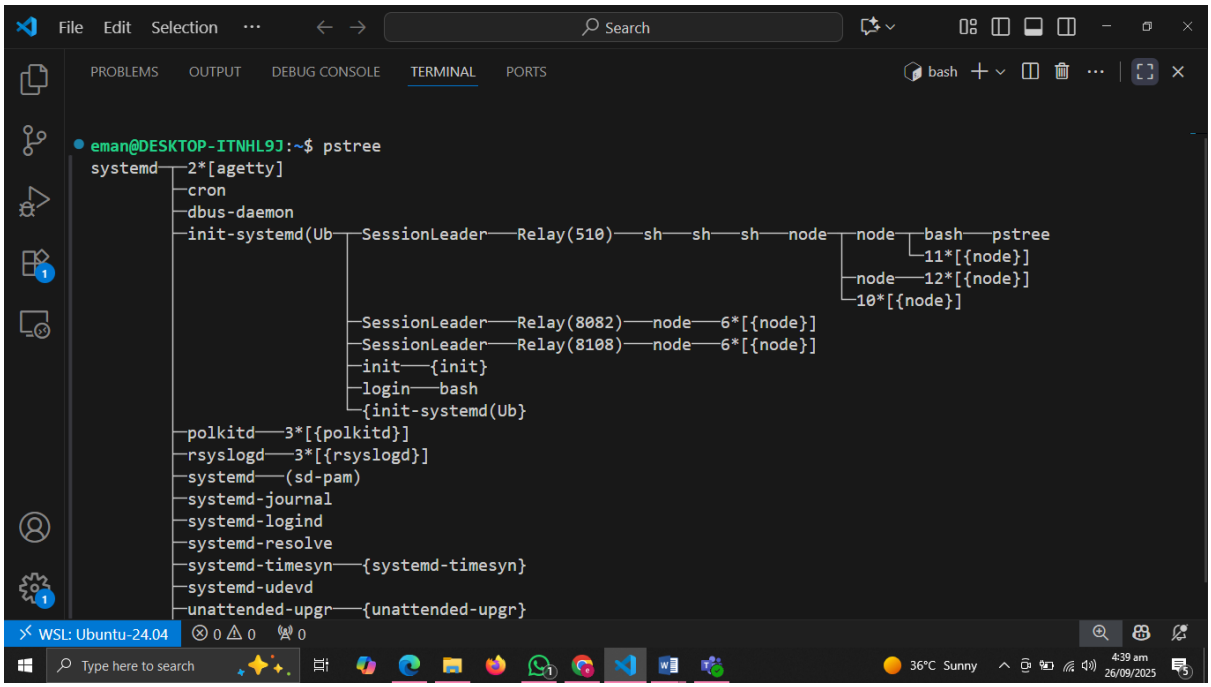
- ps aux


File Edit Selection
Search
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash
USER PID %CPU %MEM VSZ RSS TTY STAT START TIME COMMAND
root 382 0.0 0.1 6820 4224 pts/1 Ss 02:45 0:00 /bin/login -f
eman 437 0.0 0.2 20316 10880 ? Ss 02:45 0:00 /usr/lib/systemd/systemd --user
eman 440 0.0 0.0 21152 3520 ? S 02:45 0:00 (sd-pam)
eman 461 0.0 0.1 6072 4864 pts/1 S+ 02:45 0:00 -bash
root 508 0.0 0.0 3088 1028 ? Ss 02:45 0:00 /init
root 509 0.0 0.0 3088 1036 ? S 02:45 0:00 /init
eman 510 0.0 0.0 2800 1536 pts/0 Ss+ 02:45 0:00 sh -c "$VSCODE_WSL_EXT_LOCATION/scripts/wslServe
eman 519 0.0 0.0 2800 1664 pts/0 S+ 02:45 0:00 sh /mnt/c/Users/DELL/.vscode/extensions/ms-vscod
eman 526 0.0 0.0 2800 1664 pts/0 S+ 02:45 0:00 sh /home/eman/.vscode-server/bin/0f0d87fa9e96c85
eman 530 0.4 2.8 11832200 112508 pts/0 Sl+ 02:45 0:29 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5
eman 583 0.4 2.1 1073320 83252 pts/0 Sl+ 02:45 0:32 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5
eman 619 2.6 18.8 55115616 741536 pts/0 Rl+ 02:45 3:01 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5
eman 786 0.0 0.1 6208 5120 pts/4 Ss 02:46 0:01 /bin/bash --init-file /home/eman/.vscode-server/
root 8079 0.0 0.0 3080 1028 ? Ss 03:47 0:00 /init
root 8080 0.0 0.0 3096 1164 ? S 03:47 0:00 /init
eman 8082 0.1 1.3 1011532 54268 pts/2 Ssl+ 03:47 0:03 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5
root 8106 0.0 0.0 3080 1028 ? Ss 03:47 0:00 /init
root 8107 0.0 0.0 3096 1164 ? S 03:47 0:01 /init
eman 8108 0.1 1.3 1011092 54256 pts/3 Ssl+ 03:47 0:03 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5
polkitd 8446 0.0 0.1 308164 7808 ? Ssl 03:48 0:00 /usr/lib/polkit-1/polkitd --no-debug
eman 16016 100 0.1 8284 4096 pts/4 R+ 04:38 0:00 ps aux
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
Type here to search
36°C Sunny
4:38 am
26/09/2025

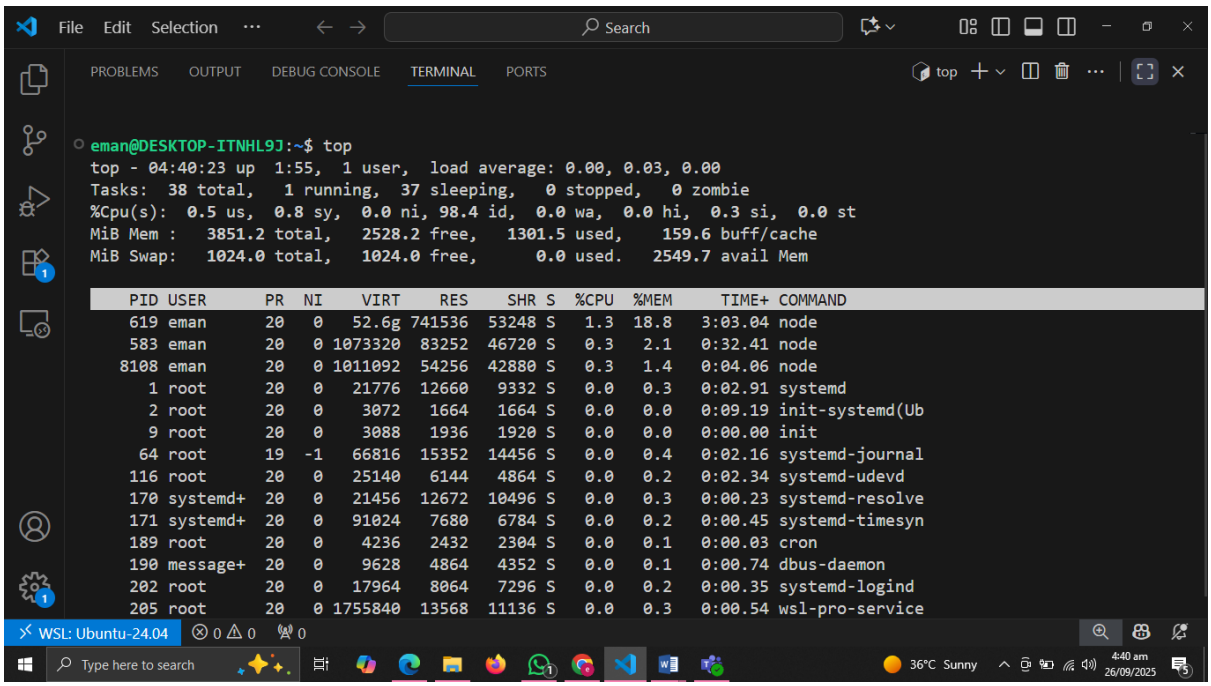
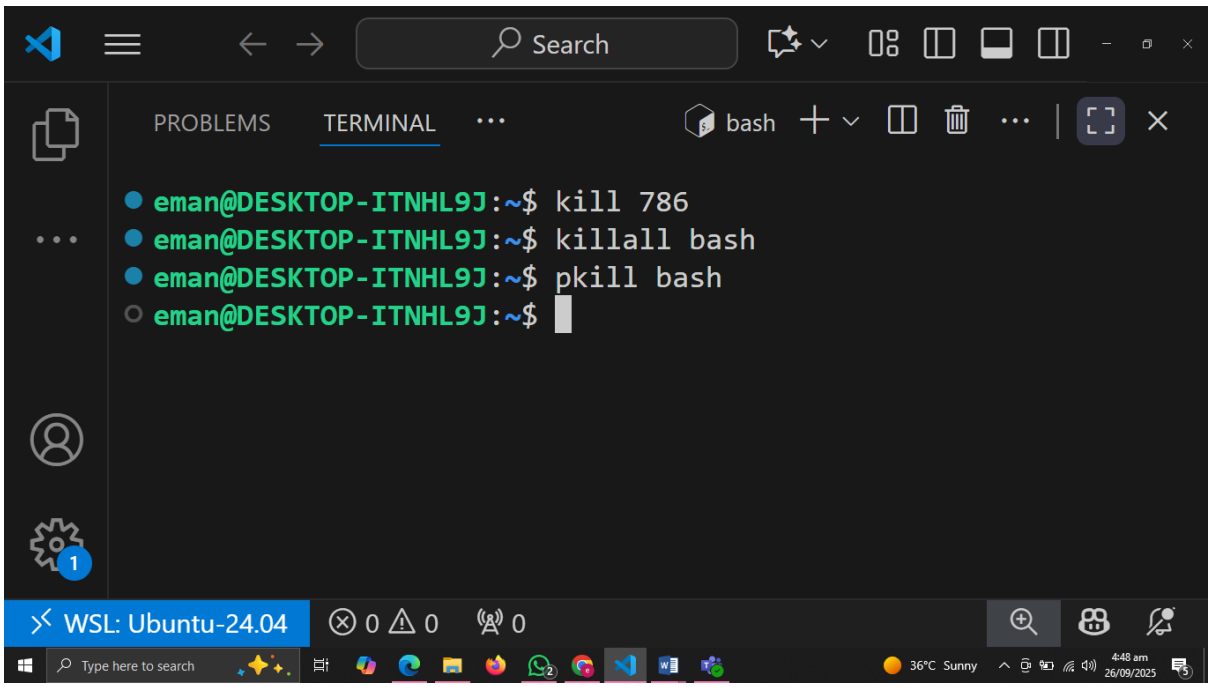
- ps -ef


File Edit Selection
Search
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash
UID PID PPID C STIME TTY TIME CMD
root 382 2 0 02:45 pts/1 00:00:00 /bin/login -f
eman 437 1 0 02:45 ? 00:00:00 /usr/lib/systemd/systemd --user
eman 440 437 0 02:45 ? 00:00:00 (sd-pam)
eman 461 382 0 02:45 pts/1 00:00:00 -bash
root 508 2 0 02:45 ? 00:00:00 /init
root 509 508 0 02:45 ? 00:00:00 /init
eman 510 509 0 02:45 pts/0 00:00:00 sh -c "$VSCODE_WSL_EXT_LOCATION/scripts/wslServer.sh" 0f0d87fa9
eman 519 510 0 02:45 pts/0 00:00:00 sh /mnt/c/Users/DELL/.vscode/extensions/ms-vscode-remote.remote
eman 526 519 0 02:45 pts/0 00:00:00 sh /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5212fc86db137
eman 530 526 0 02:45 pts/0 00:00:29 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5212fc86db137ac0
eman 583 530 0 02:45 pts/0 00:00:32 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5212fc86db137ac0
eman 619 530 2 02:45 pts/0 00:03:02 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5212fc86db137ac0
eman 786 583 0 02:46 pts/4 00:00:01 /bin/bash --init-file /home/eman/.vscode-server/bin/0f0d87fa9e9
root 8079 2 0 03:47 ? 00:00:00 /init
root 8080 8079 0 03:47 ? 00:00:00 /init
eman 8082 8080 0 03:47 pts/2 00:00:03 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5212fc86db137ac0
root 8106 2 0 03:47 ? 00:00:00 /init
root 8107 8106 0 03:47 ? 00:00:01 /init
eman 8108 8107 0 03:47 pts/3 00:00:04 /home/eman/.vscode-server/bin/0f0d87fa9e96c856c5212fc86db137ac0
polkitd 8446 1 0 03:48 ? 00:00:00 /usr/lib/polkit-1/polkitd --no-debug
eman 16136 786 0 04:39 pts/4 00:00:00 ps -ef
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
Type here to search
36°C Sunny
4:39 am
26/09/2025

- pstree


File Edit Selection
Search
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash
eman@DESKTOP-ITNHL9J:~$ pstree
systemd─┬─2*[agetty]
├─cron
├─dbus-daemon
├─init-systemd(Ub─┬─SessionLeader──Relay(510)──sh──sh──sh──node─┬─node─┬─bash──pstree
│ └─11*[{node}]
│ ├─node──12*[{node}]
│ └─10*[{node}]
│ ├─SessionLeader──Relay(8082)──node──6*[{node}]
│ ├─SessionLeader──Relay(8108)──node──6*[{node}]
│ ├─init──{init}
│ ├─login──bash
│ └─{init-systemd(Ub}
├─polkitd──3*[{polkitd}]
├─rsyslogd──3*[{rsyslogd}]
├─systemd──(sd-pam)
├─systemd-journal
├─systemd-logind
├─systemd-resolve
├─systemd-timesyn──{systemd-timesyn}
├─systemd-udevd
├─unattended-upgr──{unattended-upgr}
WSL: Ubuntu-24.04
Type here to search
36°C Sunny
4:39 am
26/09/2025

- top


File Edit Selection
Search
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
top
eman@DESKTOP-ITNHL9J:~$ top
top - 04:40:23 up 1:55, 1 user, load average: 0.00, 0.03, 0.00
Tasks: 38 total, 1 running, 37 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.5 us, 0.8 sy, 0.0 ni, 98.4 id, 0.0 wa, 0.0 hi, 0.3 si, 0.0 st
MiB Mem : 3851.2 total, 2528.2 free, 1301.5 used, 159.6 buff/cache
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used. 2549.7 avail Mem
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
619 eman 20 0 52.6g 741536 53248 S 1.3 18.8 3:03.04 node
583 eman 20 0 1073320 83252 46720 S 0.3 2.1 0:32.41 node
8108 eman 20 0 1011092 54256 42880 S 0.3 1.4 0:04.06 node
1 root 20 0 21776 12660 9332 S 0.0 0.3 0:02.91 systemd
2 root 20 0 3072 1664 1664 S 0.0 0.0 0:09.19 init-systemd(Ub
9 root 20 0 3088 1936 1920 S 0.0 0.0 0:00.00 init
64 root 19 -1 66816 15352 14456 S 0.0 0.4 0:02.16 systemd-journal
116 root 20 0 25140 6144 4864 S 0.0 0.2 0:02.34 systemd-udevd
170 systemd+ 20 0 21456 12672 10496 S 0.0 0.3 0:00.23 systemd-resolve
171 systemd+ 20 0 91024 7680 6784 S 0.0 0.2 0:00.45 systemd-timesyn
189 root 20 0 4236 2432 2304 S 0.0 0.1 0:00.03 cron
190 message+ 20 0 9628 4864 4352 S 0.0 0.1 0:00.74 dbus-daemon
202 root 20 0 17964 8064 7296 S 0.0 0.2 0:00.35 systemd-logind
205 root 20 0 1755840 13568 11136 S 0.0 0.3 0:00.54 wsl-pro-service
WSL: Ubuntu-24.04
Type here to search
36°C Sunny
4:40 am
26/09/2025

- htop
- kill PID
- killall process_name
- pkill pattern