# Solution M3 (@VasAtanasov)

### Virtual Machine #1 Debian

**CHECK:** [*https://courses.zahariev.pro/check.php?20250327093955XqIJSegV7s*](https://courses.zahariev.pro/check.php?20250327093955XqIJSegV7s)

1. Make a local copy of the **/etc/services** file with the same name

1. vasil@debian:~$ cp /etc/services .

2. vasil@debian:~$ ls

3. services

4. vasil@debian:~$

1. Using command line tools, create a variant of the local **services** file containing only the **comment lines** (lines starting with **#** symbol) and save it under the name **services\_comments.txt**.

1. vasil@debian:~$ grep -E '^[#]' services > services\_comments.txt

1. Using command line tools, create another variant of the local **services** file containing everything but the comment lines *(empty lines could be either present or absent in the resulting file)* and save it under the name **services\_wo\_comments.txt**

1. vasil@debian:~$ grep ^[^#] services > services\_wo\_comments.txt

1. Using command line tools, create third variant of the local **services** file without comment lines and containing only information about **udp** services and save it under the name **services\_udp.txt**

1. vasil@debian:~$ grep ^[^#] services | grep udp > services\_udp.txt

1. Open the file **services\_wo\_comments.txt** in **vi** editor

1. vasil@debian:~$ vi services\_wo\_comments.txt

1. Find the line about **blackjack** service for ***CentOS*** and ***openSUSE***, or **socks** for ***Ubuntu***

In normal mode we enter /socks and then hit Enter

1. Delete **everything** from **this line to the end of the file**

In normal mode we hit the keys dG

1. Save the result as **new file** under the name **well-known-ports.txt**

:w well-known-ports.txt

1. Quit **vi** without saving the changes to the original file

:q!

1. Using command line tools, substitute the symbol **/** with **-** symbol for the **first 100 lines** in the **well-known-ports.txt** file and store the result as **100-well-known-ports.txt**

1. vasil@debian:~$ sed -n '1,100s/\//-/pg' well-known-ports.txt > 100-well-known-ports.txt

1. Create *(either using an editor or heredoc)* a document named **doc1.txt** with the following content:

**10-IT-HQ**

**20-Accounting-HQ**

**30-Help Desk-Remote**

**40-Sales-HQ**

1. vasil@debian:~$ cat > doc1.txt << EOF

2. 10-IT-HQ

3. 20-Accounting-HQ

4. 30-Help Desk-Remote

5. 40-Sales-HQ

6. EOF

1. Create *(either using an editor or heredoc)* second document named **doc2.txt** with the following content:

**10-B.Thomas**

**20-J.Foster**

**30-G.Smith**

**40-F.Hudson**

1. vasil@debian:~$ cat > doc2.txt << EOF

2. 10-B.Thomas

3. 20-J.Foster

4. 30-G.Smith

5. 40-F.Hudson

6. EOF

1. Join the **doc1.txt** and **doc2.txt** files in a resulting file named **doc3.txt** *(it should contain the* ***combined information*** *from the other two – in fact it will show* ***who is working where****)*

1. vasil@debian:~$ join -t - -j 1 doc1.txt doc2.txt > doc3.txt

2. vasil@debian:~$ cat doc3.txt

3. 10-IT-HQ-B.Thomas

4. 20-Accounting-HQ-J.Foster

5. 30-Help Desk-Remote-G.Smith

6. 40-Sales-HQ-F.Hudson

1. Enter set of commands to extract the **unique values** from the **third** field of **doc3.txt** file and store them in **locations.txt** file

1. vasil@debian:~$ awk -F '-' '{print $3}' doc3.txt | sort -u > locations.txt

1. **Extend** the **previous** command in order to **count the unique values** and **store** the result to the **locations-count.txt** file

1. vasil@debian:~$ awk -F '-' '{print $3}' doc3.txt | sort -u | wc -l > locations-count.txt

1. Find **all** files in **/etc** and its **sub-directories** with **size less than 200 bytes** and store their **sorted** **list** *(containing just the path to the file and its name)* in **small-etc-files.txt** file

1. sudo find /etc -type f -size -200c -exec ls -ld {} + | awk '{print $NF}' > small-etc-files.txt

### Result

1. vasil@debian:~$ wget -q https://courses.zahariev.pro/m3.sh -O - | sudo bash

2. \* Working on Debian-based machine (BIOS) using wget to report

3. \* Testing for a local copy of /etc/services ...

4. ... PASS

5. \* Checking the services\_comments.txt file ...

6. ... PASS

7. \* Checking the services\_wo\_comments.txt file (no empty lines allowed) ...

8. \* Checking the services\_wo\_comments.txt file (empty lines allowed) ...

9. ... PASS (no empty lines)

10. \* Checking the services\_udp.txt file ...

11. ... PASS

12. \* Checking the well-known-ports.txt file ...

13. ... PASS

14. \* Checking the 100-well-known-ports.txt file (no empty lines) ...

15. ... PASS (no empty lines)

16. \* Checking the doc1.txt file ...

17. ... PASS

18. \* Checking the doc2.txt file ...

19. ... PASS

20. \* Checking the doc3.txt file ...

21. ... PASS

22. \* Checking the locations.txt file ...

23. ... PASS

24. \* Checking the locations-count.txt file ...

25. ... PASS

26. \* Checking the small-etc-files.txt file ...

27. ... PASS

28. {"message":"Your solution report is available here: https:\/\/courses.zahariev.pro\/check.php?20250327093955XqIJSegV7s","status":true}

A screenshot of a computer screen

AI-generated content may be incorrect.