LONDON METROPOLITAN UNIVERSITY

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Submitted To: Prasant Adhikari

I confirm that I understand my coursework needs to be submitted online via my second teacher platform under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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Introduction

Virtualization is a technique to merge or splitting computing resources to give one or more execution environments using technique like division of hardware and software,
machine simulation, mirroring and other (Rodríguez-Haro, et al.). It is the developing technology in the IT world. Majority of the IT company are using this technology to solidify their work load. Virtualization in computer system means creating a virtual instance of anything means it is the logical division of the resources of the system.

i) Virtualization

A hypervisor is one of many virtualization techniques which allow multiple operating systems, termed guests, to run concurrently on a host computer (Li, 2010). An operating
system on virtual machine is called a guest OS. Virtualization enables users to run multiple virtual machines on a single machine maximizing the use of hardware. Use of
virtualization technique is actually cost effective because it reduces the extra system. At last virtualization is enhancing the resources effectively, flexibility, security and cost- effective.

ii) Containerization

In alternate to virtualization we can containerization platform like Docker. It is simply operating system for different containers. Docker provides you a platform that enables software to run in its own. Docker does not need a separate OS instance for each container so it is light weight. Docker let developer to ship code faster in standardize way by improving resource utilization.

Kali Linux-:

Kali Linux is a version of the Linux made for testing the security of systems. Before it was called Backtrack, which combined three older Linux systems: IWHAX, WHOPPIX, and Auditor. Backtrack was very popular at that time. Kali Linux officially launched on March 12, 2013, as a new and improved version. Within just five days, over 90,000 people had downloaded it (allen, et al., 2014).

Features of Kali Linux:

- Built on Debian: It’s based on the Debian Linux system.
- Lots of Tools: It has more than 300 tools for security testing.
- Supports Wireless Devices: Works well with many wireless cards.
- Special Kernel: Includes a kernel that allows packet injection.
- Secure Software: All its software is signed for security.
- Customizable: Users can change it to fit their needs.
- Supports ARM Devices: Works on devices like Raspberry Pi.

Objective:

The objective of this workshop is to develop practical skills in Kali Linux command-line utilities for file management, pattern searching, alias creation, command execution.

Steps to replicate:

Step 1: Create a directory with mkdir command and other relative path

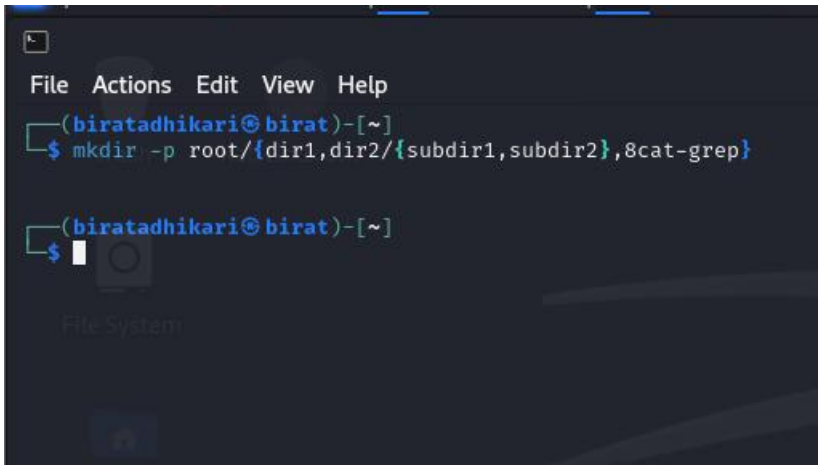

Figure 1:creation of the directory

Step 2: Change to 8cat-grep directory

Figure 2:changing directories

Step 3: Create Files testa and testb with cat

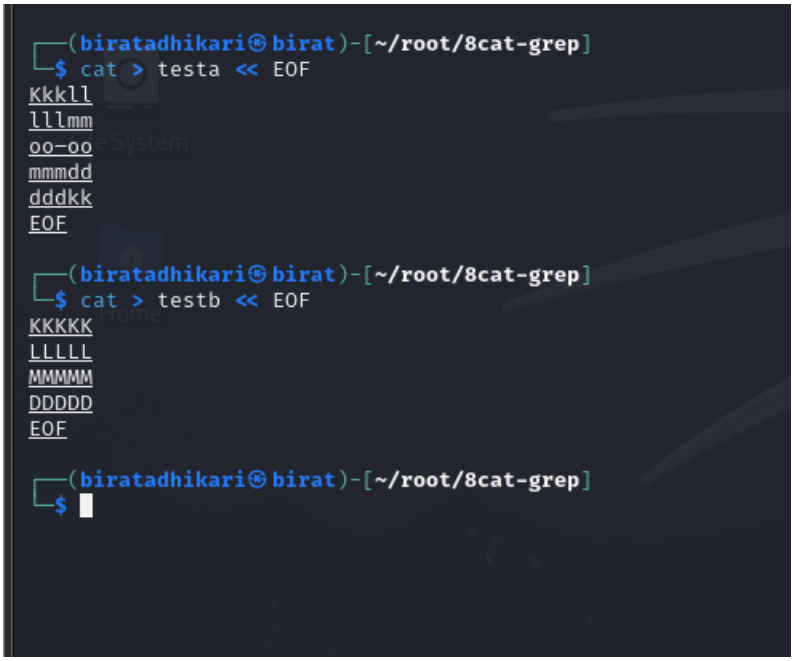

Figure 3:creating a file with cat command

Step 4.1: Finding files containing 'll'

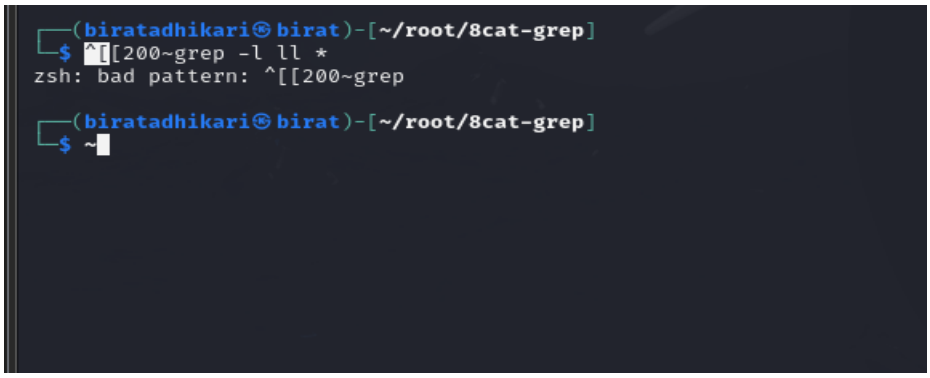

Figure 4:filenames containing the pattern ll

Step 4.2: Finding files that doesn't contain 'll'

Figure 5:displaying lines in testa that do not contain ll.

Step 4.3: Line Numbers for 'll' in testa

Figure 6:output of grep -n ll testa

Step 4.4: Line Numbers for 'll' in testa

Figure 7:output of grep -n ll testa

Step 4.5: Case-Insensitive Search for 'll'

Figure 8:case-insensitive matches for ll

Step 4.6: Case-Insensitive Search for 'LL'

Figure 9:case-insensitive matches for LL

Step 4.7: Count Lines Containing 'll'

Figure 10:Count Lines Containing 'll'

Step 4.8: Lines starts with 'k'

Figure 11:Lines starts with 'k'

Step 4.9: All Lines in testa

Figure 12:All Lines in test a

Step 5: Alias

Figure 13: creation of the lsal alias for ls -al

Step 6: Test lsal Alias

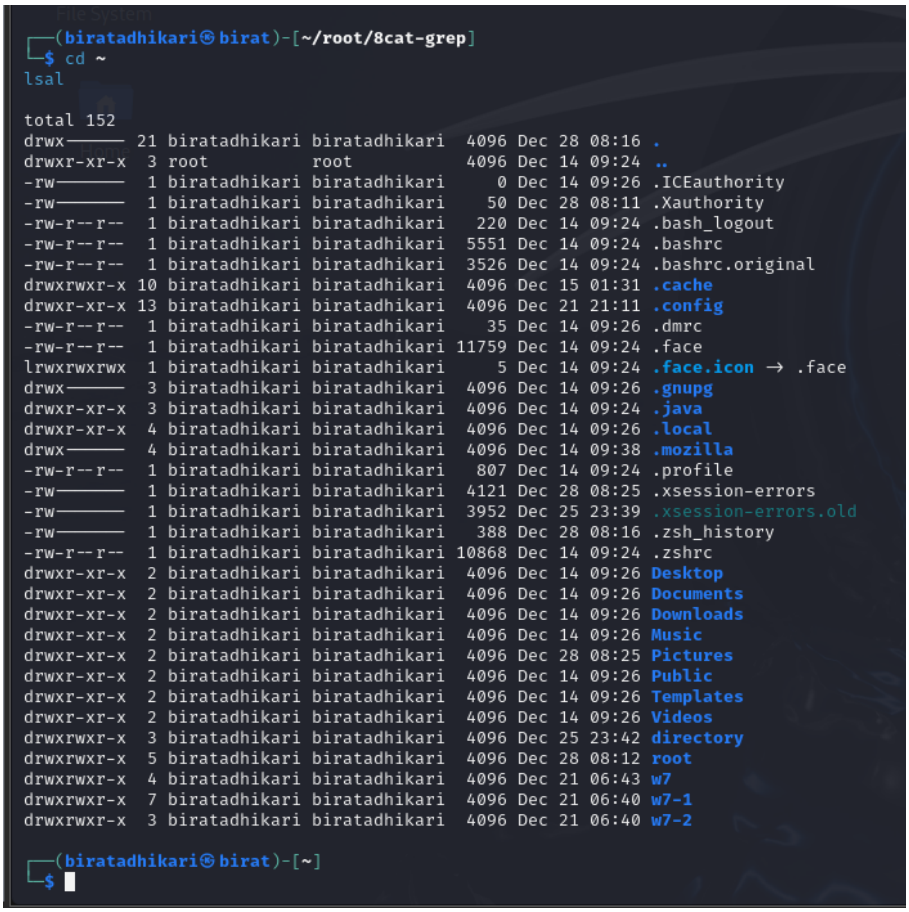

Figure 14:alias being used in the home directory

Step 7: Removing lsal Alias

Figure 15:remove the alias and verification.

References

Rodríguez-Haro, F., Freitag, F., Navarro, L., Hernánchez-sánchez, E., FaríasMendoza,
N., Guerrero-Ibáñez, J.A. and González-Potes, A., 2012. A summary of virtualization techniques. Procedia Technology, 3, pp.267-272.

Allen, L., Heriyanto, T. and Ali, S., 2014. Kali Linux–Assuring security by penetration testing. Packt Publishing Ltd.