LABORATORY WORK

OPERATING SYSTEM

MODUL 5

Created by :

Aulia Septianingrum Revyana Nurcahyani

L200183070

INFORMATION TECHNOLOGY

FACULTY OF COMUNINCATION AND INFORMATICS

UNIVERSITY OF MUHAMMADIYAH SURAKARTA

1. Explain the current linux distro (minimum 5)
    a. Red Hat

       Red Hat is one of the Linux distributions developed by a company called Red Hat Inc. and often also called Red Hat Linux, but in 2003 it was changed to Red Hat Enterprise Linux specifically for the corporate environment. This operating system was also the first to popularize the use of the RPM Package Manager system.
    b. CenOS

       CentOS stands for Community Enterprise Operating System and is an example of a Linux distribution developed by The CentOS Project. This operating system was created using source code originating from Red Hat. Therefore, in terms of CentOs this product is very similar to Red Hat Enterprise Linux.
    c. Fedora

       Fedora is one of the Linux distributions developed because it is sponsored and supported by Red Hat but created by a special team called the Fedora Project. Even the name Fedora is taken from one of the characters in the Red Hat logo itself. Similar to Red Hat, the Fedora operating system also uses the RPM Package Manager system.
    d. openSUSE

       openSUSE is also one of the operating systems established above the Linux kernel or commonly called Linux distributions. openSUSE Project as the developer created this operating system with the aim that the use of Linux can be more advanced with a stable and user-friendly performance. openSUSE is more often used as a desktop / server operating system.
    e. Debian

       The naming process of one of the Linux distributions is arguably quite unique. The originator of the first time namely Ian Murdock named Debian because it is a combination of his name and former lover. One of the reasons why Debian is one of the most widely used Linux distributions is because of its good security.
2. Explain the same 20 commands between each distro
    1) sudo su (Used to login as root / highest user)

2) login (Used to log in as another user, but must be root first to be able to run this command.)
3) date (See the current date and time)
4) cal -y (Look at the calendar this year)
5) hostname (Look at the distribution that is used)
6) clear (Cleans / deletes commands at the terminal)
7) reboot (used to restart the computer (must be root))
8) df (Shows the use of hard disk partitions as a whole.)
9) cat (Function to open files)
10) tar (Function to extract files)
11) echo (Function to write something word or sentence to a file)
12) exit (out of the shell)
13) eval (evaluate several commands / arguments)
14) fdisk (see the disk partition table)
15) find (look for files that meet the desired criteria)
16) free (Function for free memory)
17) history (Function to see what commands have been typed)
18) id (displays user and group id)
19) help (displays help for built-in commands)
20) kill (stop the ongoing process

3. Explain the purpose of the commands 'init 0', 'init 1', 'init 2', 'init 3', 'init 4', 'init 5', 'init 6'

i. init 0 => Used for maintenance, diagnostic hardware, booting other than disk for example from cdroom.
command: init 0, shutdown -i0

ii. init 1 => Single user mode, used to add patches, backup / restore systems. at this level we can run / access all files but other users cannot log into our system.
command: init 1, shutdown -i1

iii. init 2 => multiuser mode, usually for use in networks. but here there are no resourches shared.
command: init2, shutdown -i2

iv. init 3 ==> expanding multiuser mode, we can make local resourches share on our network. so we can share this level of data on the network.
command: init 3, shutdown -i3

v. init 4 ==> for alternative multiuser mode but currently cannot be used.
command: init4, shutdown -i4

vi. init 5 ==> for shutdown / power off.
command: init5, shutdown -i5

vii. init 6 ==> stop the operating system then reboot and return to the initdefault in / etc / inittab
command: init 6, shutdown -i6

4. Explain the purpose of the 'quota' command

Quota is limit values set to manage access to system and network resources or the amount of storage used by a particular User or Group

Disk quota can be applied per user or per group.

- if it is applied per user then the quota applied is absolutely the user's property. For example: Ical users have a 5 MB quota disk, then the total 5MB is absolutely the property of Ical users.
- if the disk quota is applied per group then the specified capacity is shared by the group. e.g. users Ical and RedHat are members of the Linux group. If the Linux group is given a quota of 10MB, then that capacity belongs to Ical and RedHat users. So suppose Ical users use 6MB, there are still 4MB to be used by RedHat users.

Disk quota restrictions are determined by two categories namely hard and soft limits,

- hard limit limit is a limit that cannot be exceeded, if the user has reached the hard limit limit then the user cannot enter data again to the hard disk, for example if the optimus user has a quota of 5 MB and has been used 4.9 MB so the remaining 0.1 MB remaining if then he tries to save a file of 0.4MB then the system will reject it.
- soft limit is a limit that can be crossed, but only in certain periods, the period is called the grace period, the default value of the grace period is 7 days, generally the hard limit value is greater than the soft limit. for more clearly consider the following

example, for example, the optimus user is given a soft limit of 10 MB, a hard limit of 15 MB, and a grace period of 3 days, if the optimus user has used a hard disk capacity of 12 MB then the soft limit value has been exceeded, thus the grace calculation the period starts, if within 3 days the optimus user has not reduced his disk usage to below the soft limit, then he cannot use the disk again even though the hard limit value has not been reached, if the optimistic user reduces the disk usage limit to below 10 MB then the value of grace the period is reset again to 3