**Linux Quiz-2**

1. What command would list all files (except . and ..) in the current working directory?

Ans. ***ls***

2. What is the simplest command for adding execute permission to file ~/foo, for all users

(without changing any other permission)

Ans. ***sudo*** chmod u+x ~/foo

3. Explain what execute permission means/allows when it is associated with a directory.

**Ans**. Example in my desktop I created new folder and created a file name *file1.ph.*

By giving executable permission to python file, I can give it by

***sudo*** chmod u+x /Desktop/folder1/file1.ph

So that I can execute and see results in my terminal. After giving permissions I can run the file by typing

***ph*** file1.ph

Without giving permissions I can’t execute my file and see results. It allows use to access directory and corresponding files.

4. Suppose that you wanted all users on the machine to be able to see the contents

of the file ~/public/software/instructions. text. Explain the minimum set of

permissions for files and directories needed to allow this, and any security issues that

arise.

**Ans.** We can give permissions to all users by using ***chmod.*** In order to make users to see contents we need to give ***read- r*** permissions to the users. So I can do it by

***sudo*** *chmod a+r* ~/public/software/instructions

1. all users, r – readable permissions.

We need to give permissions for both files and directories, then only all users can view the contents of files.

5. Suppose that you want to allow (only) other users bob and chuck to be able to access

the above file. Explain what you would have to do differently from what you described

above. (You are not allowed to consider the use of ACLs.)

**Ans.** We need to add bob and chuck into users group, we can do it by using –G option and usermod command. By doing so users how are in particular group can only get access with the file contents.

First I am going to add bob and chuck as user groups, inorder to do so we can use following line of command.

***sudo*** usermod –a –G bob chuck

In next step I am going to give read, write and executable permissions to both bob and chuck. Following are steps that I follow to do so,

***sudo*** chmod g+rwx ~/public/software/instructions

By doing so both will get access to the ***instruction*** file.

6. How would your answer to the previous problem change if you were to use ACLs (access

control lists)?

***Ans.***

By using ACL, I can make use of utilities like add, modify, remove and retrieve ACL information of particular file and give permissions to group of users. I will mount the directory and file with ACL support to group of users.

***sudo*** setfac1 –m groupname ~/public/software/instructions

Above line gives permissions to groupname using ACL.

7. What are set UID (SUID) files, and when are they typically used?

Ans.

UID is user identifier. They are used to map users identity of a particular file or directory. By using UID number we can kill a process, check all process with particular ID.

8. Find one SUID file on a Linux system, and show its “long listing” (permissions, owner,

etc.).

Ans.

find—command is used to find files, and we should us SUID as reference and call **find**

ls- is used for long list

9. Why are SUID root files considered a security issue?

Ans.

SUID allows user to change group based privileges. By knowing SUID we can avoid security vulnerabilities like overruns, path injections etc.

10. What command would be used to set a file foo to be SUID, and how exactly would it

be done?

Ans.

step 1: chmod u+s foo

Step 2: chmod 4750 foo /// 4- includes suid permissions

11. What command could determine the process ID (PID) of a running SSH server (sshd)?

Ans.

***pidof*** sshname

12. What command would best identify which process is using excessive CPU resources?

Ans:

**ps**

13. What command that should definitely terminate the process identified above?

Ans.

***kill*** pid

14. What file contains the list of valid user ID’s (UID’s) and their associated usernames?

Ans.

Log file contains information about UID. it is stored in etc directory

15. What file contains passwords on a Linux system (if that system is using local authentication rather than NIS, etc.)?

Ans. /etc/shadow file contains password information

16. What is difference between telnet and ssh. When will you use each command? give examples.

Both are network protocols. Telnet is used to deal with private network and ssh protects the users from malicious factors. ssh is more secure than telnet and ssh is encrypted data.