**Reminder:**

**chown – changes the ownership on a file/directory**

**chgrp – changes the group associated with a file or a directory**

**the ‘-R’ option makes the changes recursive.**

**The command ‘ls –l’ will show a file’s owner and group name. The file inode actually stores the owner id and group id. These are converted into readable names by a lookup in /etc/passwd. /etc/group. The command ‘ls –ln’ shows the actual numeric ids instead of the names.**

# **Scenario Based Questions**

**Login to the Unix system using the account you are given.**

**Run the command**

**sudo -i**

**This will enable you to run a series of administrative commands *as root*.**

***Please be patient, some of the commands take a minute or so to run.***

# SELinux Scenario Question

## Question 1

Run the command /scenariolabs/SELinux/Q1

The main website page works well. Clicking the next link takes you to the page which runs myscript.sh. It fails. Try to work out why and fix it.

## Question 2

Run the command /scenariolabs/SELinux/Q2

As per question 1! The main website page works well. Clicking the next link takes you to the page which runs myscript.sh. It fails. Try to work out why and fix it.

## Question 3

Run the command /scenariolabs/SELinux/Q3

The website works well. Nothing to fix. (Please check this by loading both web pages). BUT! Each hour a regular (cron) job runs which resets the file contexts. This is done as a security measure to make sure all the file labels are as they should be. Run /scenariolabs/SELinux/Q3b.sh, which emulates the cron job. Now check the website (myscript.sh). Ahh, it fails.

A work-round has been discovered. Please run

chcon –t httpd\_sys\_script\_exec\_t /web/cgi-bin/\*

Now check again. It works. The trouble is that every hour the website will stop working and someone has to run the chcon command. Can you fix this? The test is to run /scenariolabs/SELinux/Q3b.sh and the website keeps working.

## Question 4

The management of the company have decided to take a robust approach to data archiving and restore. In the past, the company has been hurt by restore procedures the have not delivered to promised benefits. The company has been damaged by the data loss but also from the costs of facilitating expansive backup regimes which were, in fact, worthless. The accountants calculated that the accumulated costs of maintaining the backup regime were about the same as the costs associated with losing the data.

The new approach is ruthless. The data for each (new) service is backed-up each night, the data deleted, and then restored. Any failure of the process will then come to light immediately.

The approach is not as risky as it at first appears. There is bound to be a tested back-up from the previous day, so only a day’s work is at risk. It means every backup is a truly tested backup and worth paying for. It means that the restore procedures are known to be reliable not just thought to be reliable.

The website is still in development (obviously). Run /scenariolabs/SELinux/Q4.sh (a script, so you can look at it). This is the ‘backup and restore script’ which will run each night. If you run it, you will see the website stops working.

First get the website working again.

Second, change the backup by editing Q4.sh so that is works as desired but leaves the website working properly. The solution should still work in the future as the website grows with new subdirectories appearing as they must. Your solution should not need to be updated when that happens.

## Question 5

The website grows.

Run /scenariolabs/SELinux/Q5

Reload http:10.0.10.xxx (the home page). Note the new link to How It Works. This has just been created by the developers.

Click the link. It does not work. Get it working. Check that the cron job

/scenariolabs/SELinux/Q3b.sh

does not stop it working.

Check that the backup and restore script still works.