**Lab-Exam ‘Linux 2 – Linux Advanced’**

**8 April 2021**

**Time: 15:00 – 17:00**

Mobile phones, email, chat clients and all forms of information exchange are strictly forbidden!

In this lab Exam you will have to create 3 scripts using your Linux environment. You are allowed to use the man-pages, info command and look-up Linux information on the internet.

When finished, the 3 scripts have to be combined in a TAR-file with your student name and student-number (eg: John\_doe\_631888.tar) and handed into the Moodle folder.

The scripts will be tested on Linux-Mint (Ubuntu). For each script you can receive a maximum of 3 points, so a maximum of 9 points are obtainable for the scripting part.

The last point will be based on the creation of the TAR-ball and if the scripts have execute permissions, so check the scripts inside your TAR-ball before you hand them in, they must contain the execute-flag for user, group and others.

The 3 scripts will be marked on four criteria, giving a total of 3 points maximum per script:

* Is the script runnable, and does it all work (1,0 point maximum)
* Quality of code, is the code compact and efficiently written (0,5 point maximum)
* Comments and information in the code; Are all steps and variables described and commented (0.5 points maximum)
* Error-control, does the script crash under specific tests, and can it handle bad input and input-faults (1.0 points maximum)

**Assignment 1**

Create an interactive script called ‘remote\_copy.sh’. This script will prompt for a file location on the local system and file-name. Secondly the script has to ask for a username and a remote machine name (or Ip-address for the remote system). The username has to be used as a user for the remote-file-copy (the script will prompt for a password).

This script needs to check if the current user had access/rights to the file that needs to be copied and issue a warning if the current user does not have rights to access the file (on the local machine). It will the copy the file to the remote system, placing the file in the /tmp directory using the remote-username specified in the script.

**Assignment 2**

Create a script called ‘backup\_script.sh’. This script uses an argument when started (it is started with a directory name after the scriptname). The directory (name) specified when starting the script needs to be “back-upped”. All files will be placed in a TAR-ball and zipped using Gzip. The backup file is called ‘backup\_file.tgz’ and needs to be placed in /tmp.

**Describe in a commented line** how to schedule this script in Cron. Starting on every Sunday at 01:00 AM for a backup of /home and redirecting error-output to a appended file called /tmp/backup\_error.log.

**Assignment 3**

Create a script called ‘repeat\_my\_name.sh’. This script will ask in an interactive menu for your name.

Next the script will ask for ‘number of repeats’ and prompts for upper- or lowercase output. The script then will print your name in uppercase or lowercase characters (as specified in the input question) to the screen exactly as many times as specified by ‘number of repeats’ and askes to quit the script or for a new run, and then restart.