

## Engineering, Physical & Mathematical Sciences Year 2024-25 (UG)

IY2840 – Computer and Network Security

### Lab Sheet 2: Linux CLI Basics and User Controls

#### Lab Information:

This lab is for you to familiarise yourself with the Linux command line interface (CLI). This lab is for students who do not have much experience with the Unix-style CLIs.

**IMPORTANT NOTE:**  
**DO NOT ATTEMPT THESE LABS ON THE CIM LINUX TEACHING SERVER!**

You *can not* complete the labs in this class on the CIM teaching server aka NoMachine. This system is monitored by a very sensitive intrusion detection system. In particular, if you read certain files (such as `/etc/passwd`) on this system, an alert is raised to the system administrators, who will then investigate this incident. Repeated reports can lead to access being terminated!

## 1 Navigating the Filesystem

Here are the basic commands that allow you to navigate a Linux system's filesystem.

- `pwd` Tells you where you currently are
- `cd [DIR]` Navigates to a folder
- `cd ..` Navigates to the folder above
- `cd /` Navigates to the root folder
- `cd ~` Navigates to a home folder
- `ls` lists the contents of the directory

To familiarise yourself with the file system, download the zip file from Moodle and extract them to your home directory (you can use a GUI for this step). For each level, find the locations that have a file `door.txt`

## 2 Reading Files

A useful command to read a text file is `cat` which will print the entire file to the terminal. Navigate to and then execute `cat` command on the following files:

- Level 1/West/warning

- Level 2/North/
  1. North/result
  2. East/result
  3. West/result
  4. South/resultconsider if there is a faster way to do this!
- Level 3/North/East/South/next

Now read all the files (one by one) from the main directory.

### 3 Reading Large Files

Using `cat` is inconvenient for large/long files. To demonstrate this try to read the file `Level 3/East/South/East/names`.

Solutions for this include `more`, `less`, `tail`, `grep`. Read up on these commands by Googling “man [CMD]” to get a web version of the man pages.

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