

Familiarisation Exercises

Student Computing Environment

These exercises are to be completed in your own time during Week 1. It may be best to spread them over two or three sessions, and you may find it useful to repeat some of them at different times. If something unexpected happens or you're not sure what to do, ask another student. You can also ask your tutor in Week 2 about any remaining problems you have.

You should have the *Student Computing Environment: User Guide* with you when working through these exercises. Guides were handed out in the first lecture. If you do not have a copy, there should be some available from the Department of Computer Science office on the third floor of the CSIT Building.

Objectives

The main objective for this first laboratory session of your computing studies at ANU is to ensure that you have a working computer account and are able to use some of the basic utilities of the DCS Student Computing Environment. Specifically, you will:

- log in and log out using your computer account in the DCS Student Computing Environment,
- exercise some basic features of the KDE user interface,
- use the Mozilla utility to read internet resources (including COMP1100 materials),
- use the Mozilla utility to read and send e-mail,
- access the two COMP1100 message boards,
- gain some familiarity with the Unix file system and text editors.

In general, the lab exercises give only brief indications of how you should carry out the various tasks. The main emphasis of a laboratory session is that you work out how to do the task, either by yourself using the online help system or in collaboration with your fellow students. When you find out how to do something, annotate your copy of the *Student Computing Environment: User Guide* for future reference. Don't be afraid to experiment.

Exercise 1 (Your computer account)

See Ch 2 and 3 of the *Student Computing Environment: User Guide*. A computer account is generated for you in the DCS Student Computing Environment from your enrolment information, provided you have also connected to StReaMS. The account has an associated *username* and *password*.

If, for example, your student number is 0491919 then your username is u0491919. Your password is initially set to your Personal Access Code (PAC) issued with your student card. If you wish to change your password, you can do so on-line at <http://olams.anu.edu.au/>; if you have forgotten it, go to **InfoPlace** (located on the 3rd level of the Chifley Library) for help.

A laboratory machine that is available for use will present you with a login screen. Type in your username, followed by the **Enter** key, then your password, again followed by the **Enter** key.

When you are finished in the lab you must ALWAYS terminate your session by logging out. Do this by clicking the logout button at the rightmost end of the KDE front panel. This closes down your session so that the next user cannot access your account, and leaves the laboratory machine in an appropriate state for the next user.

If your login process succeeds, you are presented with a graphical user interface called KDE that utilises a mouse to point via a cursor to windows and icons. You may be familiar with analogous interfaces such as Windows 98/NT/XP or MacOS/MacOS-X.

Look for the following features on your desktop:

- The logout button, at the right most end of the KDE front panel across the bottom of the screen, see Figure 3.1 of the *Student Computing Environment: User Guide*. You can click on this to terminate your computing session.
- The icon for the Mozilla web browser is displayed on the front panel.
- The Terminal icon is also displayed on the front panel.
- The “K” icon at the left of the panel gives you access to a range of applications, similar to the “Start” button in the Microsoft Windows environment.

Exercise 2 (World-Wide Web)

See Ch 5 of the *Student Computing Environment: User Guide*. Click on the Mozilla icon — it may take a while for the web browser to open up. Avoid starting multiple browser sessions. You will be presented with a window that displays the browser interface (Navigator) to the Mozilla program.

When started, Mozilla will display a home resource (or document). For us, this has URL (Universal Resource Locator):

`http://cs.anu.edu.au/Student/`

and is the home page for DCS teaching materials.

Explore this area. Find the COMP1100 home page and visit the documents provided in the COMP1100 area. Work out the effect of the **Back** and **Forward** buttons. While you are at the COMP1100 home page, book mark it to enable easy future access by selecting **Bookmarks** → **Bookmark This Page**.

Return to the COMP1100 home page by selecting it from the **Bookmarks** menu. Explore the other resources directly available from the COMP1100 home page.

The URL of the current document is displayed in the Location field. You may inspect an arbitrary WWW document by typing its URL into the Location field followed by the **Enter** key. Unlike the documents that reside on any of the machines that are internal to ANU computing network, external web sites (machines) require your browser to use the ANU web cache proxy. The proxy configuration has been set up for you, but does require you to enter your username and password (provided with your PAC). Spend a few minutes inspecting the following resources:

- <http://students.anu.edu.au/> This provides an access point to a range of information that you should find useful. In particular, follow the Timetabling Information link. In turn, follow the Timetable Builder link and construct your personal lecture timetable.
- <http://anulib.anu.edu.au/> The ANU Library is an extremely useful facility, including a vast array of on-line resources.
- <http://haskell.org> The source of all things related to the Haskell programming language. Being an off-campus site, it is accessed through the ANU web caching proxy and may require you to enter your username and password (if you have not already done so).

Exercise 3 (E-mail)

Look in Ch 6 of the *Student Computing Environment: User Guide*. Mozilla provides an interface to the world of electronic mail. Select the Window → Mail & Newsgroup menu item, to get a new window that displays an interface to the Local Mail system. (Alternatively click on the small mail icon in the lower left corner of the window.)

Read the e-mail messages that have arrived for you, by clicking on your Inbox mail folder. You will find that you have an e-mail address, of the form: `u0491919@anu.edu.au`

Anyone with Internet access can send e-mail to you at that address. Send e-mail to yourself, using the Compose button. After a few minutes, check to see if it has arrived.

Exercise 4 (Message boards)

There are two message boards for news and messages about COMP1100. Access to these requires you to enter your username and password. Both can be accessed from the COMP1100 home page, or URL <http://cs.anu.edu.au/phorum/> One is **COMP1100.announcements** for ‘official’ notices from course organisers; you should check it for messages every time you log in. The other is **COMP1100.talk** to which students can post messages relevant to COMP1100.

Exercise 5 (The Unix file system)

See Ch 4 of the *Student Computing Environment: User Guide*. You need to become familiar with the Unix file system and the KDE utilities that let you interact with the files and directories in the file system.

Start the Konqueror (File manager) utility from the Home icon on the front panel. This displays your home directory, with the filename *e.g.* `/students/u3123456`

Konqueror shows this as three directories (which are shown and referred to as Folders): `/` is the root directory, which contains the directory `students/`, which contains the directory `u3123654/`

Use the Help button of the Konqueror utility to access on-line documentation associated with the utility. The existence of such documentation means that we do not have to provide you with a printed manual. In particular, note where to find instructions about moving files and copying files. (See the File Manager section of the Konqueror Handbook under Help.)

You are entitled to store files in your home directory and to create directories in your home directory. Each directory can in turn contain files and further directories, each of which can contain further files and directories, and so on. Your home area (the home directory and its internal directories) is (almost) the only place where you are allowed to store files.

Select the menu item Location → New Window to start another Konqueror window, and go to the directory (by either typing it in from the Location: pane, or using Go → Up to get to the root directory (`/`) and then descending down the directory tree):

`/dept/dcs/comp1100/public`

This is an area of the file system where we put all the program files that you need for your laboratory sessions and assignments in COMP1100. Use the Konqueror utility to explore this area.

- Click on the `labs` directory to see what is in it,
- inspect the subdirectory `labs/lab01`.

The set of internal directories means that the contents of `/dept/dcs/comp1100/public` has a *tree* structure. The Konqueror utility allows you to navigate around this structure.

Copy the file `history.txt` from the `labs/lab01` sub-directory into your home directory; do this by a drag-and-drop operation between two Konqueror windows.

Exercise 6 (Editing text files)

See Ch 7 of the *Student Computing Environment: User Guide*. There are several editors available on the student system. We'll start with Emacs but you can choose to use another if you wish. Open the file `history.txt` in Emacs. Clicking on the Konqueror icon of your copy of the file should launch Emacs. Alternatively, you can open an Emacs window from the icon on the KDE front panel. Then, select the **File** → **Open File** menu and type `history.txt` after the **Find file:** `~/` prompt at the bottom. (If you type the name of a file that does not yet exist, Emacs will create a new file with that name.) You should try both these methods of opening a file for editing.

Carry out the following actions.

- Move the cursor around using the arrow keys.
- Jump forward and back one page at a time using the **Page Down** and **Page Up** keys.
- Correct some spelling mistakes in the first paragraph of the article using the arrow keys and the **Backspace** key.
- Apply the spell check function to the entire file with the menus. Select the **Tools** → **Spell Checking** → **Spell-Check Buffer** menu. Each word in the file will be checked in turn against a dictionary (generally, acronyms and parts of urls (like `http`) will be flagged as possible spelling errors). If a word is not found in the dictionary, it is highlighted in the Emacs buffer. The **SPACE** bar will accept the word despite its spelling. Emacs will generally present you with words selected from the dictionary that are close to the mis-spelled word (at the top of the window). You accept one of these alternatives by simply typing the indicated character.
- Save the new version of the file using **File** → **Save**.

Make sure you terminate your session by clicking the logout button on the front panel.