Running Applications

Launching and running applications are different on the three platforms (Unix, Linux, and Windows) and are described below.

Launching Applications on Solaris (add)

The Application Menu, which is brought up by holding down the middle mouse button in the gray background, does not list all of the available software on the Sun workstation. There are a number of applications that do not appear on the menu that can be brought up from the command line. (Application Menu software can also be brought up by command.)

Most of the applications listed in the previous Table 2 require two commands to launch. The first command is `add` followed by the name of the software package you want to use. This command sets up the software on your workstation and runs any startup programs that are part of the package. To launch the program after it is added usually requires a single command, which is sometimes followed by the name of the file you want to create or work on in the program. This second command “executes” the program and brings it into a window on the screen.

If you do not remember the commands, type `add` at the shell prompt (eos%, unity%, etc.) to list the programs and the commands to execute them. When a program is added, a message usually appears telling you what command to use to execute (bring up) the program.

Background and Foreground Processes

Programs running on your computer are called processes, and they exist in one of three states: background, foreground, or stopped. When an ampersand (&) is typed after the executing command, it tells the system to run the program in the background. The shell prompt is returned and you can continue to type commands in the terminal window.

If you do not type the ampersand, the program still runs, but you are not able to type commands in the terminal window you used to launch the program. In this situation, the process is running in the foreground, and it has read and write access to the controlling terminal. The shell must wait until the processing is finished before returning the prompt.

If you decide you want to background a process that has already been launched in the foreground, type CONTROL z (hold down the CONTROL
key and type z). This command puts the process in a stopped or suspended state and gives you back the prompt. Type bg to background the process. To bring a stopped process to the foreground, type fg.

Solaris and Linux assign a unique reference number, called a process identification (PID) number, to each process running. Users refer to the PID when they want to affect a process in some way, such as to terminate or kill it. To see what processes are running on your workstation, use the ps -e (or -ef) command if you are on a Sun. To kill a process running, type kill followed by the PID number assigned to the process. Sometimes a command or process can also be aborted by typing CONTROL c.

**Note:** When launching an application, whether from the command line or the Application Menu, you often must wait awhile before it appears on-screen (more than a minute at times). Be patient. Do not keep launching it again and again. If you do, you will eventually get multiple copies of the program running on your machine. You do not need more than one copy of a program taking up memory and slowing down the processing of the machine.

### Launching Applications from Novell and Realm Kit Launchers

The applications on the Windows and Linux platforms are accessible in an Application Launcher and appear as icons. Double-clicking an icon will launch the program.

On Windows, the applications are located in the Novell Application Launcher (NAL). They also can be launched from the Programs submenu on the Start menu. Most of these programs appear in Table 1 in the previous chapter. However, the applications you are able to see and launch may vary depending on the college you are in.

Applications and processes are identified and monitored on Windows by the Task Manager, which is brought up by right-clicking in the gray area of the task bar at the bottom of the screen. Selecting the Applications tab shows you what applications are running. The Processes tab shows all background and foreground programs running and provides a full accounting of session activity. To “kill” an application or process, select it and then select the End Task button.

The Linux platform has a similar launcher called the Realm Kit Application Launcher (RKAL), from which applications can be executed by double-clicking icons. A Programs submenu can also be brought up from the GNOME footprint icon, similar to the Start menu on Windows. The handling of processes is identical to the way they are handled on Solaris (see previous section). However, a Windows-style task bar appears at the bottom of the screen and displays an application panel that shows what is running. Tables 2 and 3 in the previous chapter show most of the applications available on Linux.

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**To list the processes running on the workstation and their PID numbers:**

```plaintext
ps -e or ps -a
```

(type man ps for other options)

**To abort a process:**

```plaintext
kill PID#
```

or

```plaintext
CTRL c
```

---

If an application stops working correctly on the Windows platform, right-click its application icon in the NAL and select Verify.