Chapter Eleven

The X Window System

Lesson A

Starting and Navigating an X Window System

Objectives

- Describe the X Window system
- Understand the role of the Window Manager
- Start the X Window system
- Interact with the X Window system and use its components
What is the X Window System?

- The X Window system is a graphical user interface (GUI) that runs on Linux and many UNIX operating systems.
- Programmers may develop applications that run on the X Window system and support GUI components, such as windows, dialog boxes, buttons, and pull-down menus.
- The X Window system was originally created at MIT and was created so that different brands of hardware, running different variations of UNIX, would all look and feel the same to the user.

X Window Clients and Servers

- Although you can easily use the X Window system to run programs stored on your local computer, you can also run applications over the network.
- X Window uses a client/server model in which a program can run on one computer but display its output on another.
- The desktop system from which you run a program is called the X server, the system that hosts and executes the program is called the X client (this is opposite of normal networking).

Figure 11-1 Typical X Window screen
Window Managers

The X Window system is layered and built from components. The top layer is the Window Manager.

Table 11-1  Common window managers

<table>
<thead>
<tr>
<th>Window Manager</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>fvwm</td>
<td>Virtual Window Manager</td>
</tr>
<tr>
<td>fvwm95</td>
<td>Version of fvwm with a Windows 95 look and feel</td>
</tr>
<tr>
<td>gnome</td>
<td>Generic Window Manager based on the Window Object Directed Language — WOXEL</td>
</tr>
<tr>
<td>iwm</td>
<td>Window Manager developed in C++</td>
</tr>
<tr>
<td>kwm</td>
<td>Window Manager used by KDE</td>
</tr>
<tr>
<td>mwm</td>
<td>Motif Window Manager</td>
</tr>
<tr>
<td>Openbox</td>
<td>Theme-based Window Manager</td>
</tr>
<tr>
<td>openbox</td>
<td>Comparable with the XPM programming language, and provides a desktop that has little clutter from icons</td>
</tr>
<tr>
<td>thm</td>
<td>Thm Window Manager or Thm's Window Manager</td>
</tr>
<tr>
<td>Window Maker</td>
<td>Provides support for the GNOME Desktop Environment</td>
</tr>
</tbody>
</table>

Starting the X Window System

Establishing the OS’s default run level, or mode of operation.
The GNOME environment consists of icons, a panel, windows, and the desktop area. Many GNOME window components appear and function exactly like their counterparts in a Windows-based system. This includes: resizing, moving, shading, and unshading a window. Some windows components offer context-sensitive, pop-up help boxes.
Interacting with Windows

Iconify, minimize/maximize, and close buttons work in a similar fashion to their windows-based counterparts in terms of managing a window.

![Image](image1.png)

**Figure 11-5** The Pager in the GNOME Panel

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Interacting with the Panel

You can access the panel and alter its properties via the Main Menu.

![Image](image2.png)

**Figure 11-6** The Main Menu

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Interacting with the Panel

The clock applet displays the date and time by default but you can modify its properties.

![Image](image3.png)

**Figure 11-7** Clock properties window
Lesson B
Running Applications and Customizing the Desktop

Objectives
- Run built-in applications
- Use the Calendar application to keep appointments and a to-do list
- Start the spreadsheet application and the gedit application
- Configure your desktop

Figure 11-8 Nautilus application with the Tree tab selected
Figure 11-9  Nautilus toolbar

Figure 11-10  Preferences window

Figure 11-11  Shortcut menu
Figure 11-12  Calendar application

Figure 11-13  Creating a new appointment

Figure 11-14  Creating a to-do list item
Figure 11-18  Background window

Figure 11-19  Screen saver window

Figure 11-20  Disk usage Settings window
Chapter Summary

- The X Window system is a graphical user interface, or GUI, that runs many UNIX and Linux systems
- The X Window system is built in layers and the top layer, with which the user interacts, is called the Windows Manager
- Use the startx command at the command line to start the X Window system
- The GNOME environment consists of icons, a panel, windows, and the desktop area

Chapter Summary

- You resize, move, minimize, maximize, and close a window by interacting with its border, title bar, and buttons
- The GNOME panel provides access to the Main Menu and icons for applets
- You configure the clock applet to display the date and time in 12-hour, 24-hour, or other formats
- The Nautilus is a GUI for managing your directories and files and for navigating the file system

Chapter Summary

- In addition to Nautilus, the X Window system has several other built-in applications
- You can copy text from one window and paste it into another
- You can customize the background of your display with a color or graphic image known as wallpaper
Chapter Summary

- You may choose from a number of screen savers, which activate after there has been no keyboard or mouse activity after a specified period of time.
- You can customize the Panel by adding and moving applet icons, including icons that launch your own programs.
- You can customize the Main Menu by adding entries that execute your own programs.

Command Summary

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>sLogin</td>
<td>Starts the X Window System</td>
</tr>
</tbody>
</table>