when we execute the ls command, the shell locates this file in the /bin directory and makes arrangements to execute it.

The path: The sequence of directories that the shell searches to look for a command is specified in its own PATH variable.

Use echo to evaluate this variable and we'll see a directory list separated by colons:

$ echo $PATH

/bin: /usr/bin: /usr/local/bin: /usr/ccs/bin: /usr/local/java/bin: .

There are six directories in this colon-separated list. To consider the second one, /usr/bin represents a hierarchy of three directory names.

The first / indicates the top-most directory called "root", so usr is below the root directory and bin is below usr.

The following message shows that the netscape command is not available in any of these directories:

$ netscape

bash : netscape : not found

the bash shell is running here and prints the message after failing to locate the file. This doesn't in any way confirm that netscape doesn't exist on this system; it could resides in a different directory. In that case we still run it :

- By changing the value of PATH to include that directory.
- By using a path (like /usr/local/bin/netscape if the command is located in /usr/local/bin)

INTERNAL AND EXTERNAL COMMAND

- Internal commands are commands that are executed directly by the shell. These commands will not have a separated process running for each.