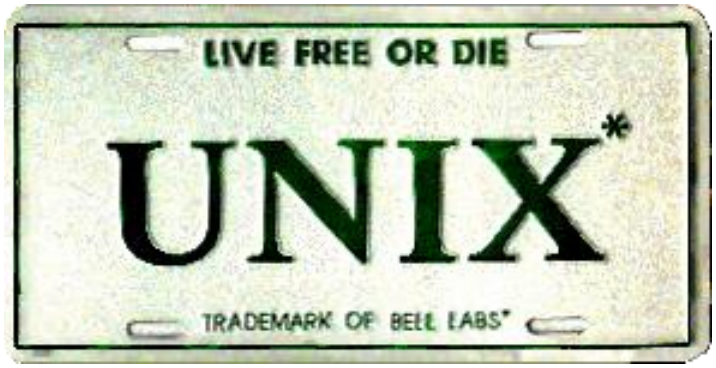


UNIX for Programmers and Users

“UNIX for Programmers and Users”
Third Edition, Prentice-Hall, GRAHAM GLASS, KING ABLES

Listing Group: groups

- groups

- The groups utility allows you to list all of the groups that you're a member of, and it works like this:

groups userId

- When invoked with no arguments, the group utility displays a list of all of the groups that you are a member of.

- If the name of a user is specified, a list of the groups to which that user belongs are displayed.

- Example:

```
$ groups userId                    --> list my groups
cs          music
$ _
```

Changing File Group: chgrp

- Changing a File's group : chgrp

chgrp -R groupname fileName

- The chgrp utility allows a user to change the group of files that he/she owns.
- A super-user can change the group of any file.
- All of the files that follow the groupname argument are affected.
- **The -R option** recursively changes the group of the files in a directory.

Changing File Group: example

```
$ ls -lg heart.final
-rw-r--r--   1   glass   cs   213  Jan  31  00:12  heart.final

$ chgrp  music heart.final      --> change the group.

$ ls -lg heart.final       --> confirm the changes.
-rw-r--r--    1    glass    music  213  Jan  31  00:12  heart.final
$ _
```

- The chgrp utility is also used to change the group of a directory.

Changing File Owner: chown

chown -R newUserId fileName

- The chown utility allows a super-user to change the ownership of files.
- Some Unix versions allow the owner of the file to reassign ownership to another user.
- All of the files that follow the newUserId argument are affected.
- The -R option recursively changes the owner of the files in directories.

Changing File Owner: chown

- Example: change the ownership of “heart.final” to “tim” and then back to “glass” again:

$ ls -lg heart.final --> to view the owner before the change.
-rw-r----- 1 glass music 213 Jan 31 00:12 heart.final

$ chown tim heart.final --> change the owner to “tim”.

$ ls -lg heart.final --> to view the owner after the change.
-rw-r----- 1 tim music 213 Jan 31 00:12 heart.final

$ chown glass heart.final --> change the owner back to “glass”.
$ _

Change User Groups: newgrp

newgrp [-][groupname]

- The newgrp utility with a groupname as an argument, creates a new shell with an effective group ID corresponding to the groupname.
- The old shell sleeps until the termination of the newly created shell.
- User must be a member of the specified group.
- If the argument is a dash(-) instead of a groupname, a shell is created with the same settings as those of the shell that was created by logging into the system.

Changing Groups: example

$ date > test1 --> create from a “cs” group shell.

$ newgrp music --> create a “music” group shell.

$ date > test2 --> create from a “music” group shell.
^D

$ ls -lg test1 test2 --> look at each file’s attributes.

```
-rw-r--r--    1   glass   cs      29  Jan  31   22:57   test1
-rw-r--r--    1   glass   music   29  Jan  31   22:57   test2
$ _
```

Adding group & assigning to user

- sudo groupadd -g 2000 ug1
- sudo tail /etc/group
- groups srd
- sudo adduser srd ug1
- groups srd

Shells

- **INTRODUCTION**

  A shell is a program that is an interface between a user and the raw operating system.

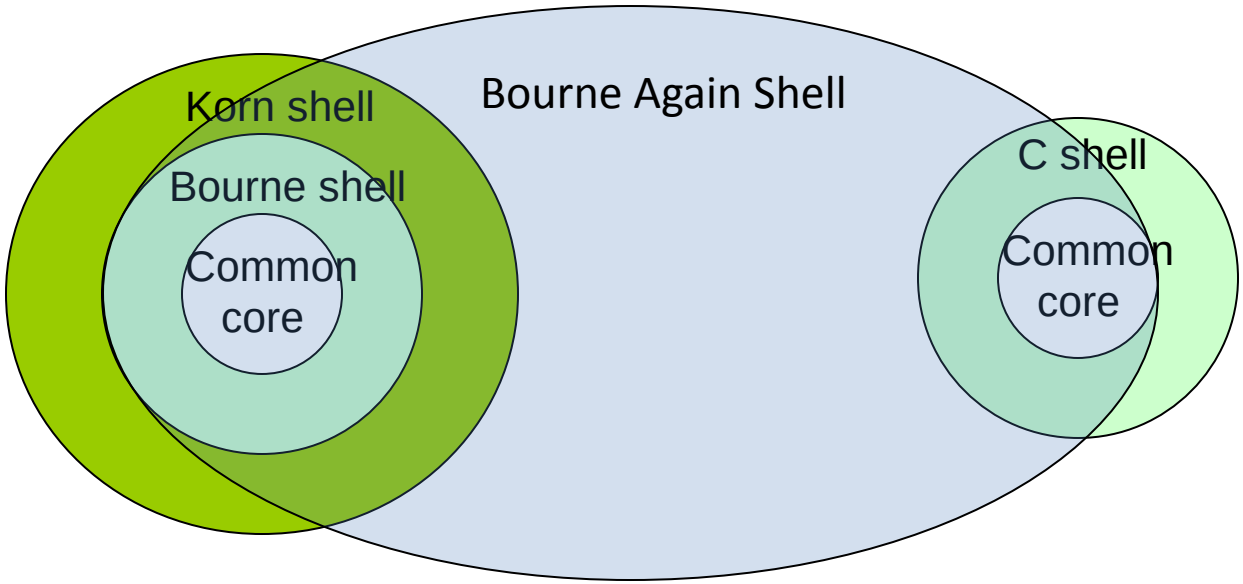
  It makes basic facilities such as multitasking and piping easy to use, and it adds useful file-specific features such as wildcards and I/O redirection.

  There are four common shells in use:

  - the Bourne shell
  - the Korn shell
  - the C shell
  - the Bash shell (Bourne Again Shell)

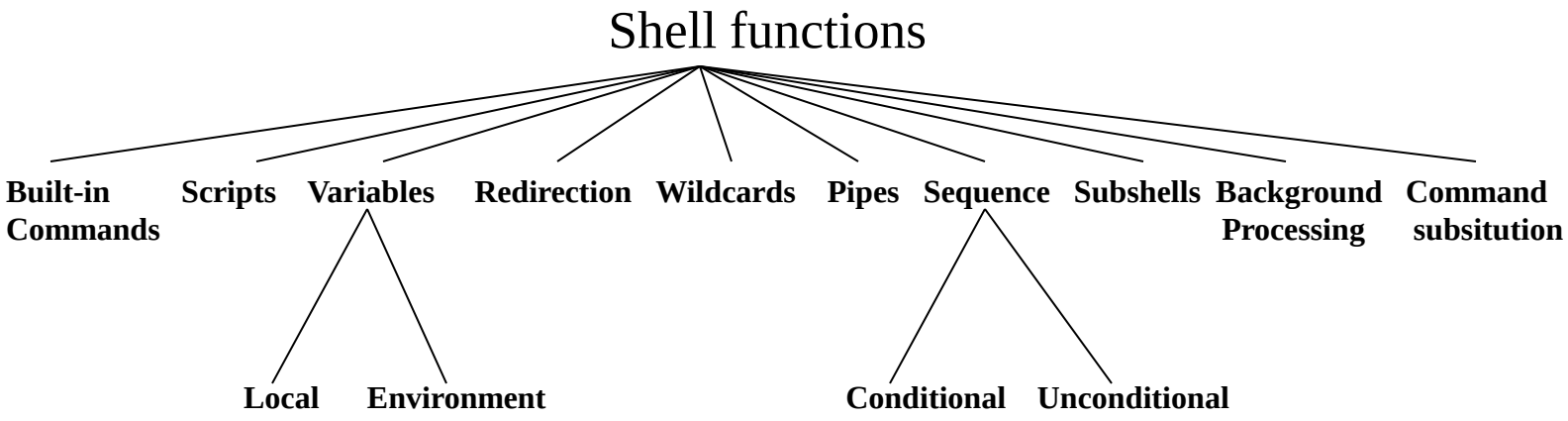
- **SHELL FUNCTIONALITY**

  - Here is a diagram that illustrates the relationship among the four shells:



- **SHELL FUNCTIONALITY**

  - The features shared by the four shells



- **SELECTING A SHELL**

The system administrator chooses a shell for any UNIX user.

$ prompt represents probably a Bash, Bourne or a Korn shell.
% prompt represents probably a C shell.

- **Utility : chsh**
  - **chsh** allows you to change your default login shell.
    It prompts you for the full pathname of the new shell,
    which is then used as your shell for subsequent logins.

  - In order to use **chsh**, you must know the full pathnames of the four shells. Here they are:

Shell	Full pathname
Bourne	/bin/sh
Bash	/bin/bash
Korn	/bin/ksh
C	/bin/csh

- **SELECTING A SHELL**
  Change the default login shell from a Bourne shell to a Bash shell:

```
$ echo  $SHELL          ---> display the name of current login shell.
  /bin/bash                ---> full pathname of the Bash shell.


$ chsh                        ---> change the login shell from bash to sh.
Changing login shell for glass
Old shell :  /bin/bash      ---> pathname of old shell is displayed.
New shell: /bin/sh  ---> enter full pathname of new shell.


$ echo  $SHELL
  /bin/sh                 ---> full pathname of the Bourne shell.
$
```

- **SHELL OPERATIONS**

When a shell is invoked, either automatically during a login or manually from a keyboard or script, it follows a preset sequence:

1. It reads a special startup file, typically located in the user's home directory, that contains some initialization information.

2. It displays a prompt and waits for a user command.

3. If the user enters a Control-D character on a line of its own, this command is interpreted by the shell as meaning "end of input", and it causes the shell to terminate;

   otherwise, the shell executes the user's command and returns to step 2.

- **SHELL OPERATIONS**

Commands range from simple utility invocations like:

```
$ ls
```

to complex-looking pipeline sequences like:

```
$ ps -ef  | sort  | wc -l
```

- a command with a backslash(\) character, and the shell will allow you to continue the command on the next line:

```
$ echo this is a very long shell command and needs to \
   be extended with the line-continuation character.  Note \
   that a single command may be extended for several lines.
$ _
```

- **EXECUTABLE FILES VERSUS BUILT-IN COMMANDS**

  Most UNIX commands invoke utility programs that are stored in the directory hierarchy.

  Utilities are stored in files that have execute permission.

  For example, when you type

  $ ls

  the shell locates the executable program called “ls”, which is typically found in the “/bin” directory, and executes it.