Performing User Administration

Main components of a User Account

Üsername

A unique name that a user enters to log in to a system.
 Also called as login name. Not more than 8 characters.

Password

 A combination of 6 to 8 letters, numbers, or special characters that a user enters with the login name to gain access to a system.

UID number

- A user account's unique numerical identification within the system.
- UID for users range from 100 to 60000.
- Values through 0 to 99 are reserved for system accounts.



GID number

- A unique numerical identification of the group to which the user belongs.
- GID numbers for users range from 100 to 60000.

Comment

- Information that identifies the user.
- User's home directory
 - A directory in to which the user is placed after login.



User's login shell

- The user's work environment is set up by the initialization files that are defined by the user's login shell.
- Password aging
 - An optional feature to require users to change their passwords on a regular basis



- "/etc/passwd"
 - Authorized system users have login account entries in the "/etc/passwd" file.
- "/etc/shadow"
 - Is a separate file that contains the encrypted passwords.
- "/etc/group"
 - Defines the default system group entries.

The "/etc/passwd" file

- Authorized system users have login account entries in this file
 - "loginID:x:UID:GID:comment:home_directory:login_shell"
 - "root:x:0:Super-User:/root:/sbin/sh"
 - "loginID" Represents the user's login name
 - "x" represents a placeholder for the user's encrypted password, which is kept in the "/etc/shadow" file



- "UID" Contains the UID number used by the system to identify the user. UID numbers for users range from 100 to 60000. Values through 0 to 99 are reserved for system accounts.
- "GID" Contains the GID number used by the system to identify the user's primary group
- "comment" Typically contains the user's full name



- "home_directory" Contains the full path name to the user's home directory
- "login_shell" Defines the user's logins shell. There are six possible shells in the Solaris OE. Bourne shell, Korn shell, C shell, Z shell, BASH shell and the TC shell.

The "/etc/shadow" file

- Is separate file that contains the encrypted passwords.
 - "loginID:password:lastchg:min:max:warn:inactive:expire:"
 - "root:5RiJS.yvdGBkU:6445::::"
 - "loginID" The user's login name
 - "password" A 13 character encrypted password. The string *LK* indicates a locked account, and the string *NP* indicates no valid password



- "lastchg" The number of days between January 1, 1970, and the last password modification date
- "min" The minimum number of days required between password changes
- "max" The maximum number of days the password is valid before the user is prompted to enter a new password at login



- "warn" The number of days the user is warned before the password expires
- "inactive" The number of inactive days allowed for the user before the user's account is locked
- "expire" The when the user accounts expires. (given as number of days since January 1,1970)

The "/etc/group" file

- Each user belongs to a group that is referred as the user's primary group.
- Each user can also belong to upto 15 additional groups, known as secondary groups.
 - "groupname:grouppassword:GID:username-list"
 - "root::0:root"



- "groupname" Contains the name assigned to the group. Group names can be maximum 8 characters.
- "group-password" Usually contains an empty field or an *.
- "GID" Contains the group's GID number. It is unique on the local system and should be unique across the organization. Numbers 0 to 99, 60001, 60002 and 65534 are reserved for system group entries. User defined groups range from 100 to 60000.



 "username-list" - Contains a commaseparated list of user names that represent the user's secondary group memberships.



Managing User Accounts

- Command-Line Tools
 - "useradd" Adds a new user account
 - "usermod" Modifies a user's account
 - "userdel" Deletes a user's account
 - "groupadd" Adds a new group
 - "groupmod" Modifies a group
 - "groupdel" Deletes a group

Creating a User Account

- "useradd" Command Format and Options
 - "-u uid" Sets the UID number for the new user
 - "-g gid" Defines the new user's primary group
 - "-G gid" Defines the new user's secondary group
 - "-d dir" Defines the full path name for the user's home directory
 - "-m" Creates the user's home directory if it does not exist



- "-s shell" Define the full path name for the shell program of the user's login shell
- "-c comment" Specifies any comment
- "loginname" Defines the user's login name for the user account
- "-D" Displays the defaults that are applied to the "useradd" command



- "# useradd -u 100 -g other -d /export/home/user1 -m -s /bin/ksh -c "Regular User" user1"
 - Will create a user named user1 with an UID of 100 and member of other group with "/export/home/user1" as his home directory and Korn Shell as his login shell
- Can use the "passwd" command to create a password for the new account
 - "# passwd user1"
 - Will prompt you enter a password for the account twice.



Modifying a User Account

- "usermod" command format and options
 - "-o" Allows a UID to be duplicated
 - "-m" Moves the user's home directory to the new location specified with the "-d" option
 - "-I newlogname" Changes a user's login name for the specified user account



- "-f inactive" Sets the number of inactive days that are allowed on a user account
- "-e expire" Sets an expiration date on the user account
- Usage:
- "# usermod -m -d /export/home/usera -l usera user1"
- Will change the username from user1 to usera and changes the users home directory to "/export/home/usera"



- Change shell#usermod -s /bin/ksh harshil/bin/ksh is the new shellHarshil = user Account
- Change login name
 #usermod -I harshil1 harshil
 Harshil1=new login name
 Harshil = old login name



Deleting a User Account

- "userdel" command
 - "#userdel usera"
 - Removes the login account named usera
 - "#userdel -r usera"
 - Removes both the user's account and home directory



Types of groups

- Primary
- Secondary
- How to add user to primary group?
- How to add user to secondary group?
- How to remove user from secondary group?

Creating a Group

- "groupadd" command format and options
 - "-g gid" Assigns the GID number for the new group
 - "o" Allows the GID number to be duplicated
- "#groupadd -g300 group1"
 - Will create group named group1 with a GID of 300

Modifying a Group

- "groupmod" command format and options
 - "-g gid" Specifies the new GID number for the group
 - "o" Allows the GID number to be duplicated
 - "-n name" Specifies the new name for the group
- "# groupmod -g 400 batch2
 - Will change the GID as 400 for the group batch2



Deleting a Group

- "groupdel" command
- Usage:
 - "#groupdel groupname"
 - "#groupdel group1"



Managing Intialization Files



- When users log in to the system, their login shells look for and execute two different types of initialization files
- The first type controls the system-wide environment
- The second type controls the user's environment



Initialization Files for the **Primary Shells**

| | | | User | |
|--------|----------------|-----------------|----------------|----------|
| | | | Initialization | |
| | System- | Primary User | Files Read | |
| | Wide | Initialization | When a New | Shell |
| | Initialization | Files Read at | Shell is | Path |
| Shells | Files | Login | Started | Name |
| Bourne | /etc/profile | \$HOME/.profile | | /bin/sh |
| Korn | /etc/profile | \$HOME/.profile | \$HOME/.kshrc | /bin/ksh |
| | | \$HOME/.kshrc | | |
| С | /etc/.login | \$HOME/.profile | \$HOME/.cshrc | /bin/csh |
| | | \$HOME/.cshrc | | |



Default User Initialization Files

| | Initialization File | User Initialization |
|-------|-------------------------|---------------------|
| Shell | Templates | Files |
| Boune | /etc/skel/local.profile | \$HOME/.profile |
| Korn | /etc/skel/local.profile | \$HOME/.profile |
| С | /etc/skel/local.cshrc | \$HOME/.cshrc |
| | /etc/skel/local.login | \$HOME/.login |