

## Chapter 7. Managing User Accounts

These labs should be performed on the Ubuntu operating system that you installed in [Chapter 1](#), “Distributions and Key Components.” Before you begin this lab, log in to the student account that you created during the installation process.

### Lab 7.1 Managing User Accounts

**STEP 1.** Open a terminal window.

\_\_\_\_\_

**STEP 2.** Execute the correct command to display user account information (including the login shell and home directory) for the bin account.

\_\_\_\_\_

**STEP 3.** Execute the correct command to display user password information (including the encrypted password and password aging) for the bin account.

\_\_\_\_\_

**STEP 4.** The command in step 3 should have failed. Execute the correct su command to change your account so the command from step 3 will be successful when executed.

\_\_\_\_\_

**STEP 5.** Create a new user named jake and explicitly use options to create the home directory /home/jake for this user.

\_\_\_\_\_

**STEP 6.** Set a password for the jake user to a password of your choosing.

\_\_\_\_\_

\_\_\_\_\_

**STEP 7.** Run the correct command to display the default values used when a new account is created.

\_\_\_\_\_

**STEP 8.** Using the less command, display the file that contains the password aging defaults.

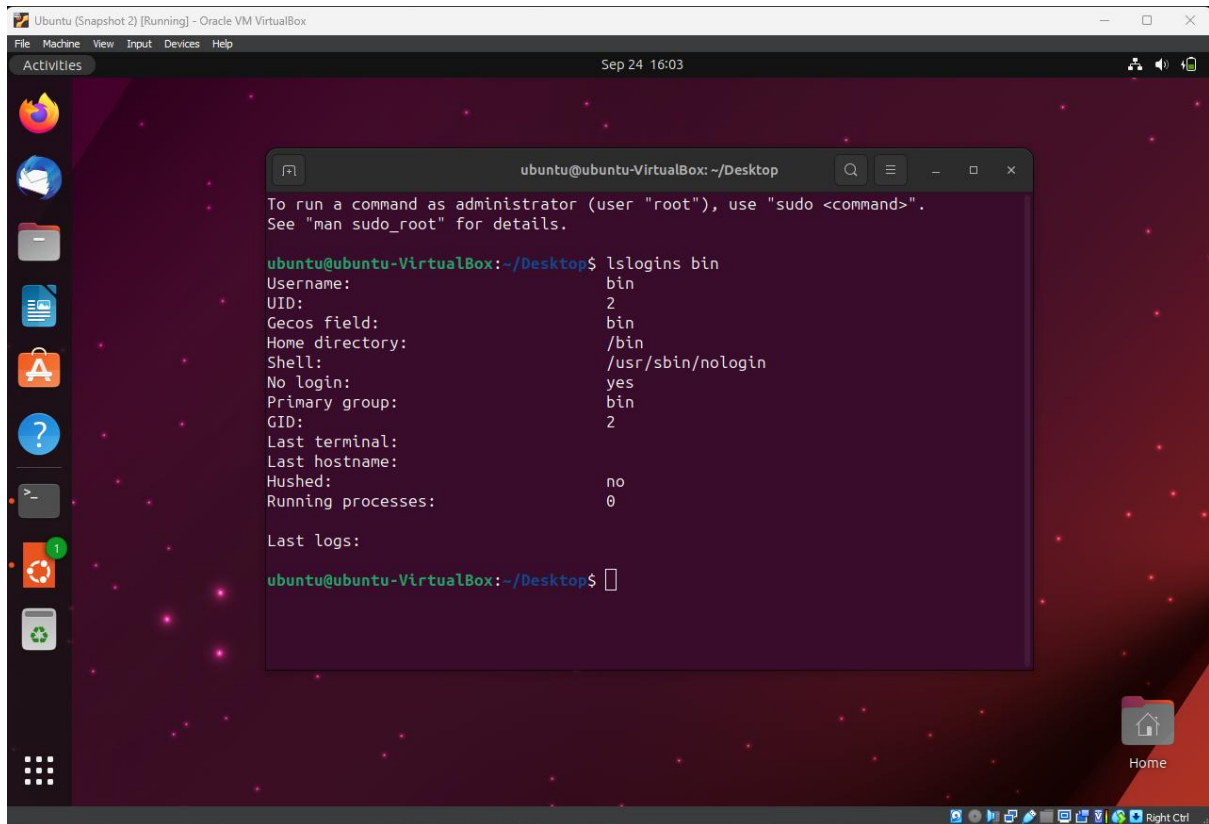
\_\_\_\_\_

**STEP 9.** Using the less command, display the file that contains the default login shell.

\_\_\_\_\_

**STEP 10.** Delete the jake user and his home directory, using a single command.

\_\_\_\_\_

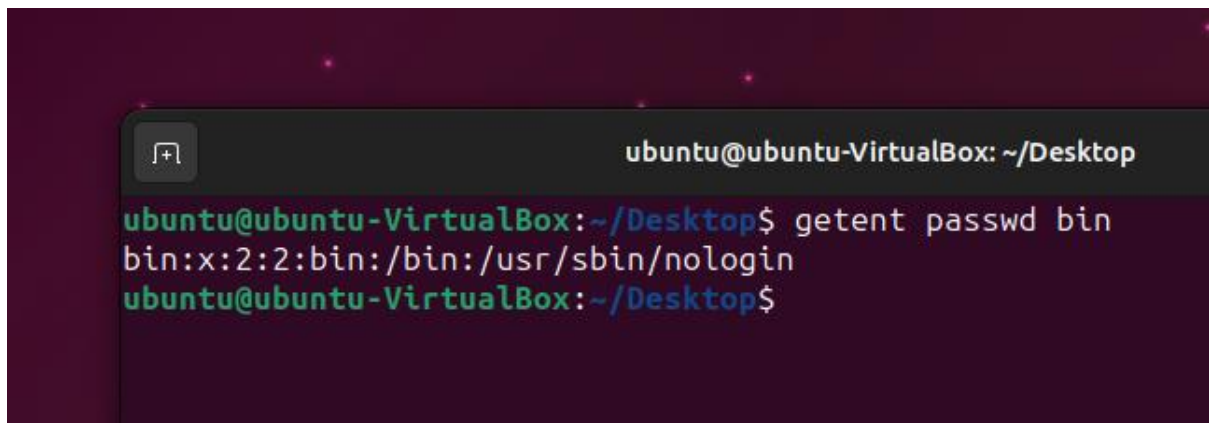


The screenshot shows an Ubuntu desktop environment running in a VirtualBox. The desktop has a dark purple background with a starry pattern. On the left is a dock with various application icons. A terminal window is open in the center, displaying the output of the 'lslogins bin' command. The terminal title bar reads 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The output shows details for the 'bin' user, including username, UID, Gecos field, home directory, shell, login status, primary group, and last logs.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ubuntu-VirtualBox:~/Desktop$ lslogins bin
Username:          bin
UID:               2
Gecos field:       bin
Home directory:    /bin
Shell:             /usr/sbin/nologin
No login:          yes
Primary group:     bin
GID:               2
Last terminal:
Last hostname:
Hushed:            no
Running processes: 0

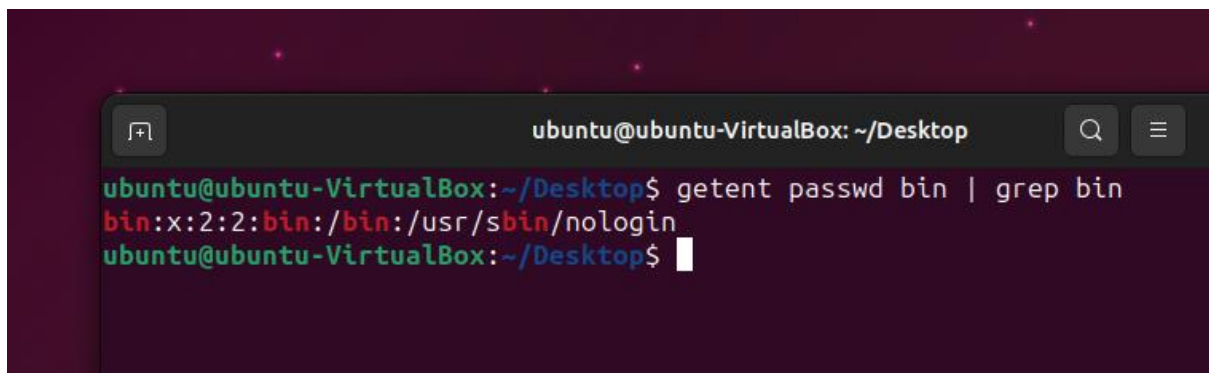
Last logs:
ubuntu@ubuntu-VirtualBox:~/Desktop$
```



This is a close-up of the terminal window from the previous screenshot. It shows the command 'getent passwd bin' being executed. The output displays the user entry for 'bin' in the system's password database.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop

ubuntu@ubuntu-VirtualBox:~/Desktop$ getent passwd bin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
ubuntu@ubuntu-VirtualBox:~/Desktop$
```



This is another close-up of the terminal window. It shows the command 'getent passwd bin | grep bin' being executed. The output is the same as the previous command, but it highlights the 'bin' part of the output in red.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop

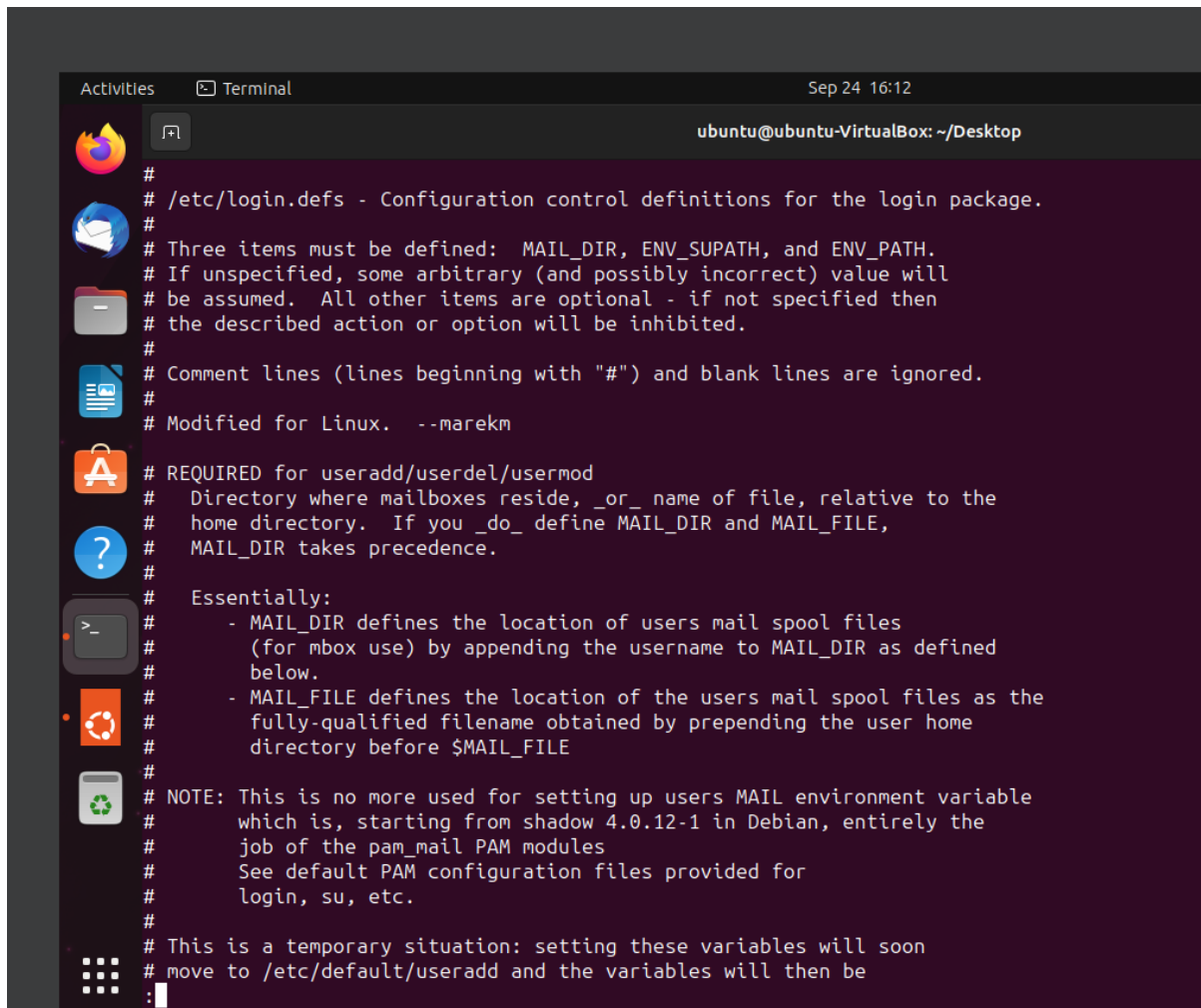
ubuntu@ubuntu-VirtualBox:~/Desktop$ getent passwd bin | grep bin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo chage -l bin
[sudo] password for ubuntu:
Last password change                : Apr 18, 2023
Password expires                    : never
Password inactive                   : never
Account expires                     : never
Minimum number of days between password change : 0
Maximum number of days between password change : 99999
Number of days of warning before password expires : 7
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo useradd -m -d /home/jake jake
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

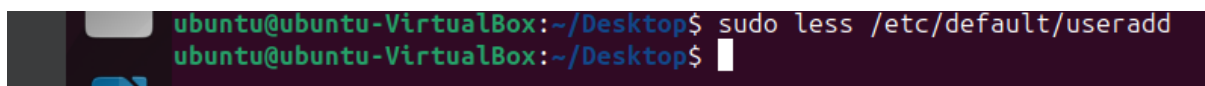
```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo passwd jake
[sudo] password for ubuntu:
New password:
Retype new password:
passwd: password updated successfully
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo less /etc/login.defs
ubuntu@ubuntu-VirtualBox:~/Desktop$
```



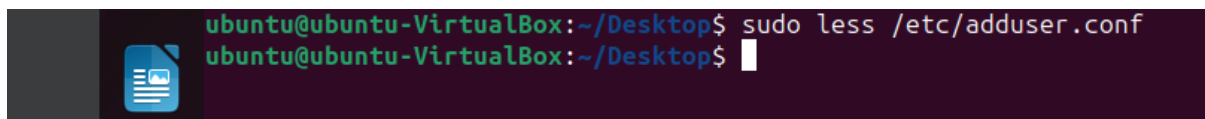
A terminal window titled 'Terminal' with a date and time of 'Sep 24 16:12'. The prompt is 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The terminal displays the contents of the file /etc/login.defs, which is a configuration file for the login package. The file contains several comments and a list of required environment variables. The comments include: 'Three items must be defined: MAIL\_DIR, ENV\_SUPATH, and ENV\_PATH. If unspecified, some arbitrary (and possibly incorrect) value will be assumed. All other items are optional - if not specified then the described action or option will be inhibited.', 'Comment lines (lines beginning with "#") and blank lines are ignored.', 'Modified for Linux. --marekm', 'REQUIRED for useradd/userdel/usermod', 'Directory where mailboxes reside, \_or\_ name of file, relative to the home directory. If you \_do\_ define MAIL\_DIR and MAIL\_FILE, MAIL\_DIR takes precedence.', 'Essentially:', '- MAIL\_DIR defines the location of users mail spool files (for mbox use) by appending the username to MAIL\_DIR as defined below.', '- MAIL\_FILE defines the location of the users mail spool files as the fully-qualified filename obtained by prepending the user home directory before \$MAIL\_FILE', 'NOTE: This is no more used for setting up users MAIL environment variable which is, starting from shadow 4.0.12-1 in Debian, entirely the job of the pam\_mail PAM modules See default PAM configuration files provided for login, su, etc.', 'This is a temporary situation: setting these variables will soon move to /etc/default/useradd and the variables will then be'. The terminal also shows a sidebar with various application icons.

```
#
# /etc/login.defs - Configuration control definitions for the login package.
#
# Three items must be defined: MAIL_DIR, ENV_SUPATH, and ENV_PATH.
# If unspecified, some arbitrary (and possibly incorrect) value will
# be assumed. All other items are optional - if not specified then
# the described action or option will be inhibited.
#
# Comment lines (lines beginning with "#") and blank lines are ignored.
#
# Modified for Linux.  --marekm
#
# REQUIRED for useradd/userdel/usermod
#   Directory where mailboxes reside, _or_ name of file, relative to the
#   home directory.  If you _do_ define MAIL_DIR and MAIL_FILE,
#   MAIL_DIR takes precedence.
#
#   Essentially:
#   - MAIL_DIR defines the location of users mail spool files
#     (for mbox use) by appending the username to MAIL_DIR as defined
#     below.
#   - MAIL_FILE defines the location of the users mail spool files as the
#     fully-qualified filename obtained by prepending the user home
#     directory before $MAIL_FILE
#
# NOTE: This is no more used for setting up users MAIL environment variable
#       which is, starting from shadow 4.0.12-1 in Debian, entirely the
#       job of the pam_mail PAM modules
#       See default PAM configuration files provided for
#       login, su, etc.
#
# This is a temporary situation: setting these variables will soon
# move to /etc/default/useradd and the variables will then be
# :
```



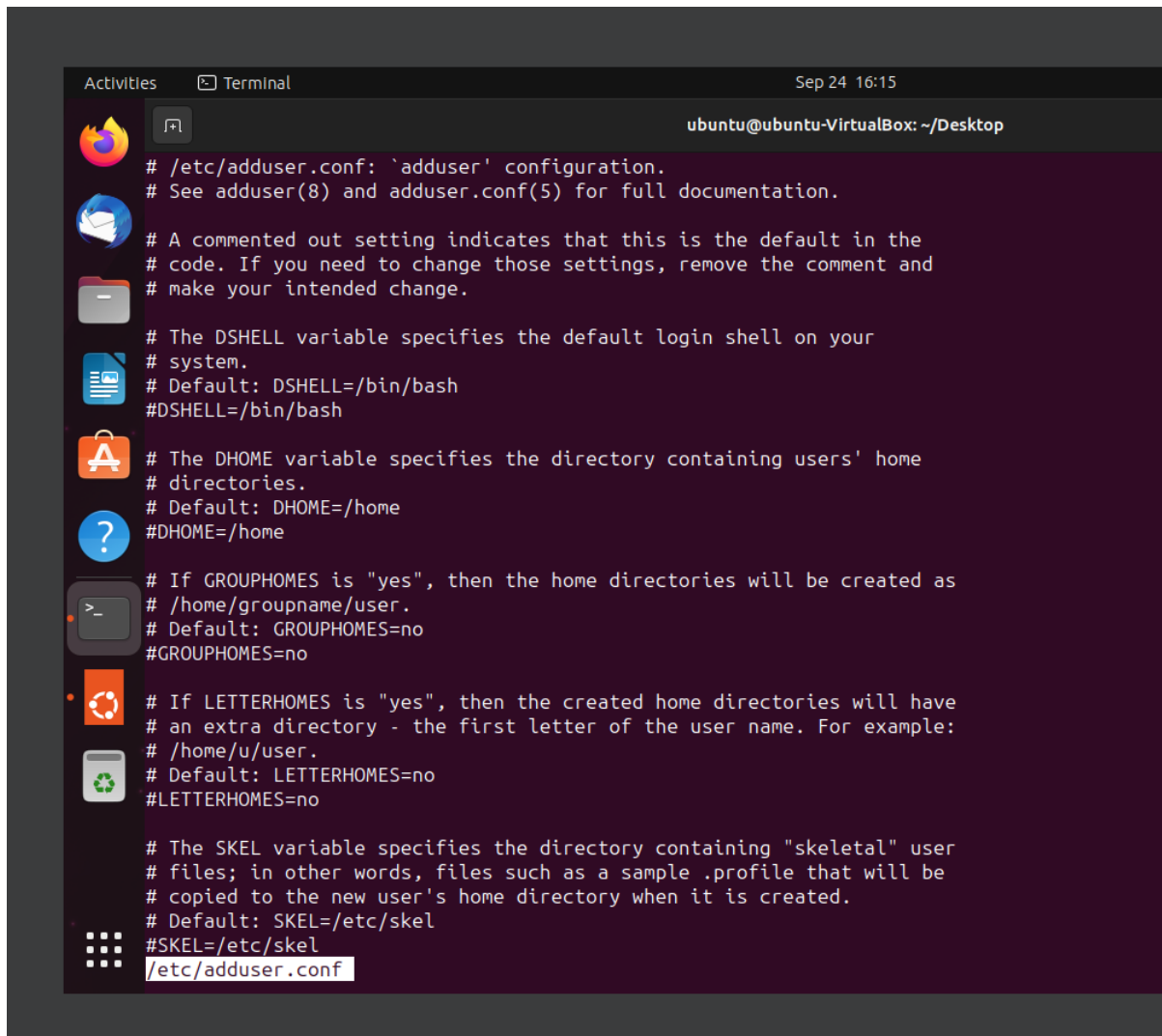
A terminal window showing the command 'sudo less /etc/default/useradd' being executed. The prompt is 'ubuntu@ubuntu-VirtualBox: ~/Desktop\$'. The output is 'ubuntu@ubuntu-VirtualBox: ~/Desktop\$'.

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo less /etc/default/useradd
ubuntu@ubuntu-VirtualBox:~/Desktop$
```



A terminal window showing the command 'sudo less /etc/adduser.conf' being executed. The prompt is 'ubuntu@ubuntu-VirtualBox: ~/Desktop\$'. The output is 'ubuntu@ubuntu-VirtualBox: ~/Desktop\$'.

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo less /etc/adduser.conf
ubuntu@ubuntu-VirtualBox:~/Desktop$
```



The screenshot shows a terminal window titled 'Terminal' with the date and time 'Sep 24 16:15'. The prompt is 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The terminal displays the contents of the file '/etc/adduser.conf', which is a configuration file for the 'adduser' command. The file contains several commented-out settings and their defaults. The settings are: DSHELL (default: /bin/bash), DHOME (default: /home), GROUPTHOMES (default: no), LETTERHOMES (default: no), and SKEL (default: /etc/skel). The terminal also shows the file path '/etc/adduser.conf' at the bottom.

```
# /etc/adduser.conf: 'adduser' configuration.
# See adduser(8) and adduser.conf(5) for full documentation.

# A commented out setting indicates that this is the default in the
# code. If you need to change those settings, remove the comment and
# make your intended change.

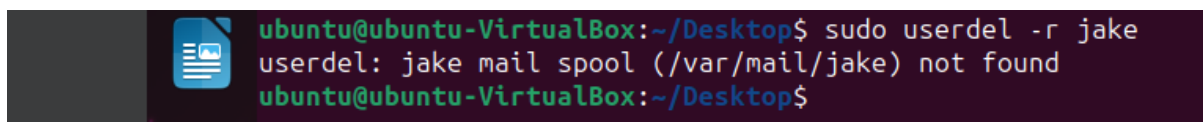
# The DSHELL variable specifies the default login shell on your
# system.
# Default: DSHELL=/bin/bash
#DSHELL=/bin/bash

# The DHOME variable specifies the directory containing users' home
# directories.
# Default: DHOME=/home
#DHOME=/home

# If GROUPTHOMES is "yes", then the home directories will be created as
# /home/groupname/user.
# Default: GROUPTHOMES=no
#GROUPTHOMES=no

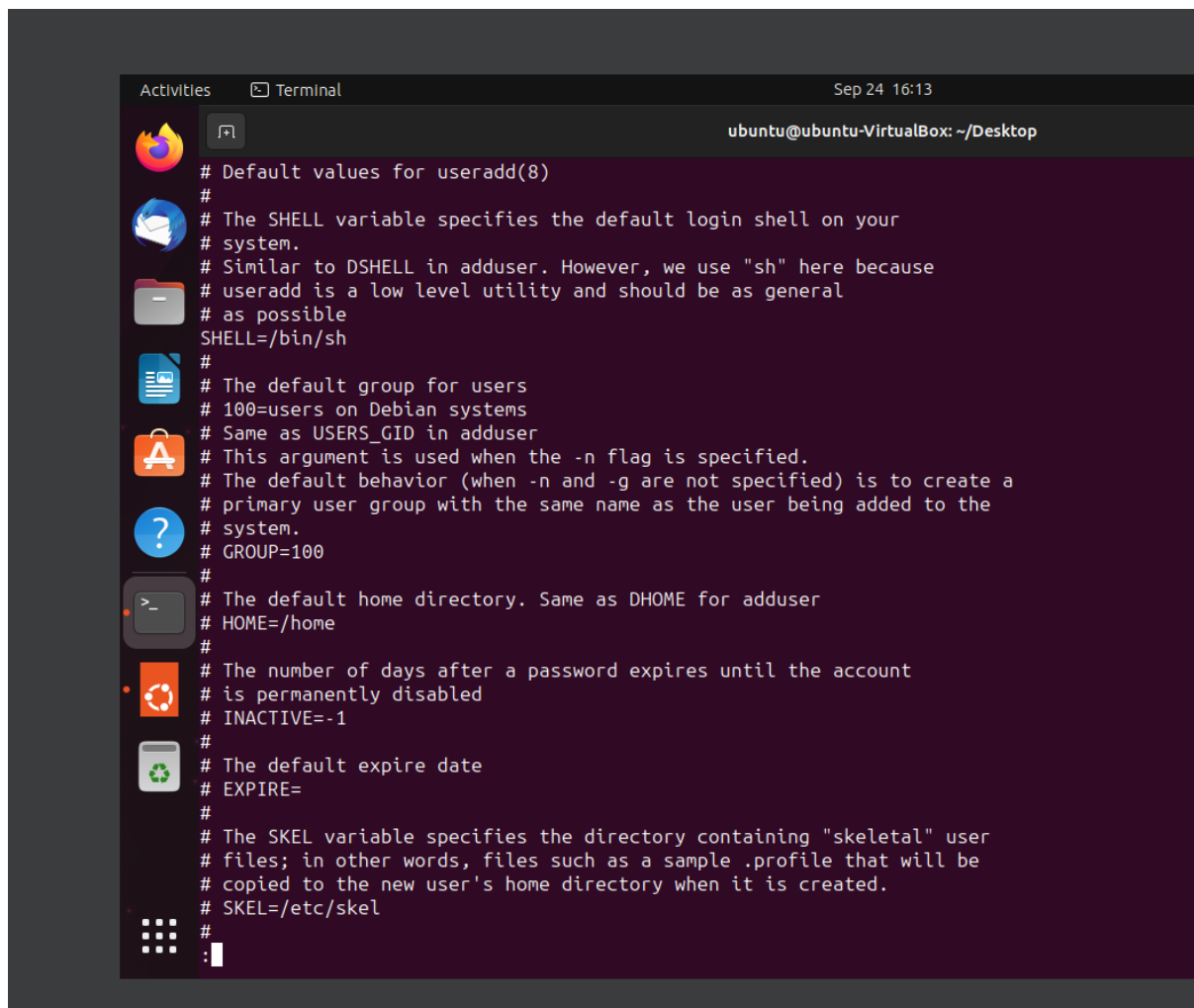
# If LETTERHOMES is "yes", then the created home directories will have
# an extra directory - the first letter of the user name. For example:
# /home/u/user.
# Default: LETTERHOMES=no
#LETTERHOMES=no

# The SKEL variable specifies the directory containing "skeletal" user
# files; in other words, files such as a sample .profile that will be
# copied to the new user's home directory when it is created.
# Default: SKEL=/etc/skel
#SKEL=/etc/skel
/etc/adduser.conf
```



The screenshot shows a terminal window with the prompt 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The user has entered the command 'sudo userdel -r jake'. The output of the command is 'userdel: jake mail spool (/var/mail/jake) not found'. The prompt is now 'ubuntu@ubuntu-VirtualBox: ~/Desktop\$'.

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ sudo userdel -r jake
userdel: jake mail spool (/var/mail/jake) not found
ubuntu@ubuntu-VirtualBox:~/Desktop$
```



A terminal window titled "Terminal" with a date and time of "Sep 24 16:13". The window shows the command prompt "ubuntu@ubuntu-VirtualBox: ~/Desktop" and the output of the command "man 8 useradd". The output is a list of default values for the useradd command, including SHELL, GROUP, HOME, INACTIVE, EXPIRE, and SKEL. The terminal window has a dark background and a light-colored text. On the left side of the terminal window, there is a vertical bar with several icons: a terminal icon, a file manager icon, a web browser icon, a mail icon, a calendar icon, a clock icon, a power icon, a search icon, a help icon, a settings icon, a network icon, a sound icon, a battery icon, and a system status icon.

```
Activities Terminal Sep 24 16:13
ubuntu@ubuntu-VirtualBox: ~/Desktop
# Default values for useradd(8)
#
# The SHELL variable specifies the default login shell on your
# system.
# Similar to DSHELL in adduser. However, we use "sh" here because
# useradd is a low level utility and should be as general
# as possible
SHELL=/bin/sh
#
# The default group for users
# 100=users on Debian systems
# Same as USERS_GID in adduser
# This argument is used when the -n flag is specified.
# The default behavior (when -n and -g are not specified) is to create a
# primary user group with the same name as the user being added to the
# system.
# GROUP=100
#
# The default home directory. Same as DHOME for adduser
# HOME=/home
#
# The number of days after a password expires until the account
# is permanently disabled
# INACTIVE=-1
#
# The default expire date
# EXPIRE=
#
# The SKEL variable specifies the directory containing "skeletal" user
# files; in other words, files such as a sample .profile that will be
# copied to the new user's home directory when it is created.
# SKEL=/etc/skel
#
#
```

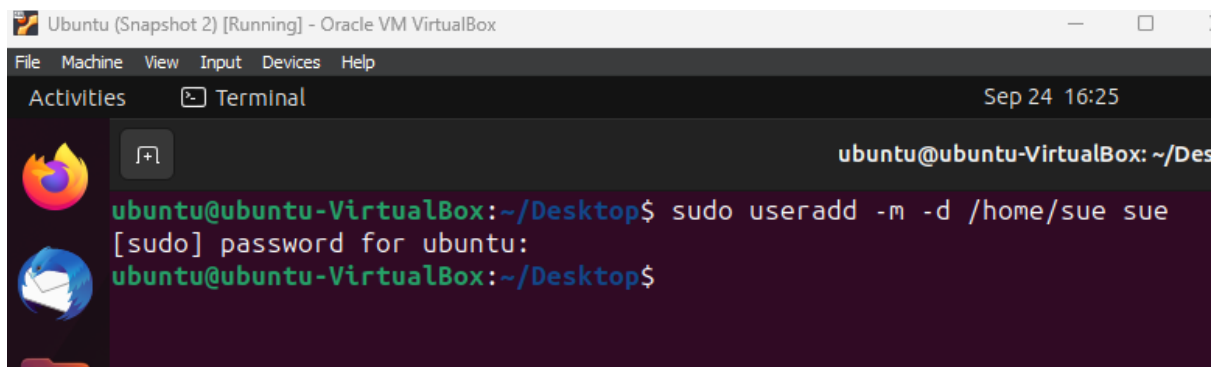
## Lab 7.2 Securing User Accounts

Scenario: Create a user account named sue with the following restrictions:

### Warning

With Ubuntu, some of the options for user account commands are different from the standard options provided in the book. For this lab you need to explore the documentation for the specific Ubuntu distro you installed to discover the correct answer.

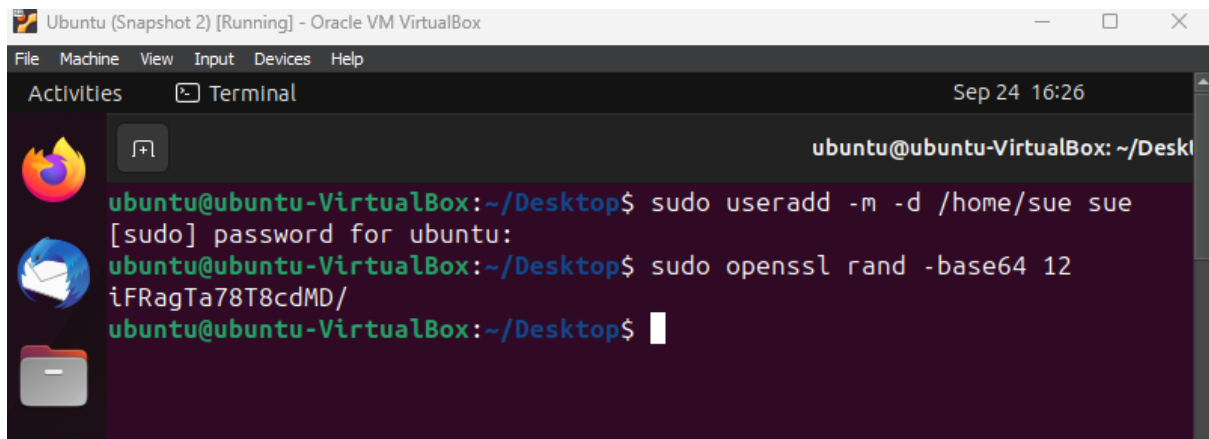
- The account should have a strong, randomly generated password (consider using <https://passwordsgenerator.net> or a similar site to create the password).
- The user should be a secondary member of the games group.
- The user's home directory should be explicitly set as /home/sue.
- The user should be forced to change her password every 60 days.
- The user should not be allowed to change her password for 2 days after it has been set.
- The password warning field should be set to 10.
- The password inactivity period should be set to 60.
- The account should be set to expire on January 1, 2025.
- This user (and all others) should have a minimum password length of 12 characters.



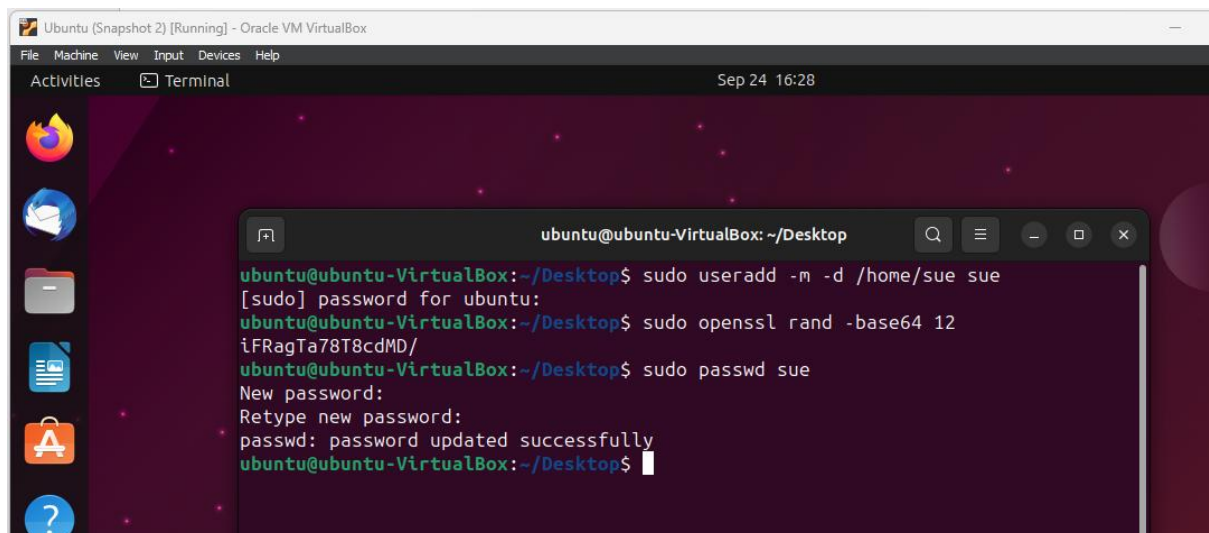
The screenshot shows a terminal window titled "Ubuntu (Snapshot 2) [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo useradd -m -d /home/sue sue
[sudo] password for ubuntu:
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```

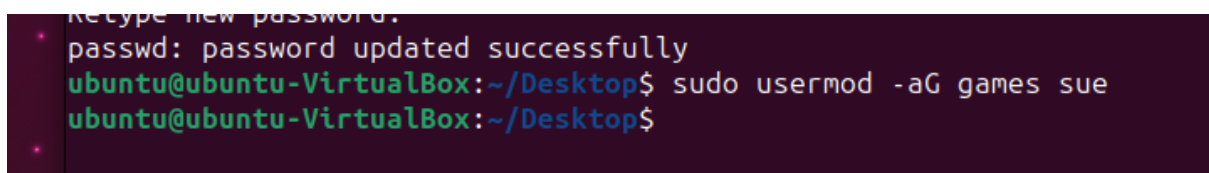




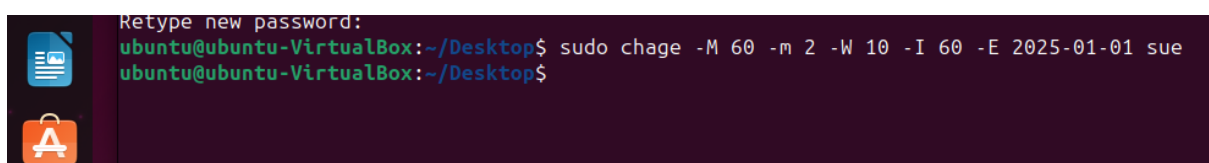
```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo useradd -m -d /home/sue sue
[sudo] password for ubuntu:
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo openssl rand -base64 12
iFRagTa78T8cdMD/
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```



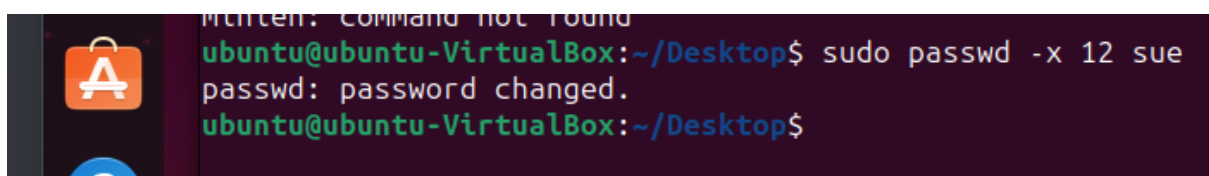
```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo useradd -m -d /home/sue sue
[sudo] password for ubuntu:
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo openssl rand -base64 12
iFRagTa78T8cdMD/
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo passwd sue
New password:
Retype new password:
passwd: password updated successfully
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```



```
Retype new password:
passwd: password updated successfully
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo usermod -aG games sue
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```



```
Retype new password:
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo chage -M 60 -m 2 -W 10 -I 60 -E 2025-01-01 sue
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```



```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ sudo passwd -x 12 sue
passwd: password changed.
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```



