# Linux User Manager – Project Documentation

1. Project Overview

- Purpose: Automate user creation and deletion in Linux.

- Tools used: Bash scripting, Ubuntu VM, VirtualBox.

- Outcome: Successfully created and removed users with logging and home directory backups.

2. Setup & Environment

- **VM Host:** VirtualBox

- **Guest OS:** Ubuntu 22.04.5 Desktop

- **Terminal Access:** Ctrl+Alt+T

- **Privileges:** Verified sudo access
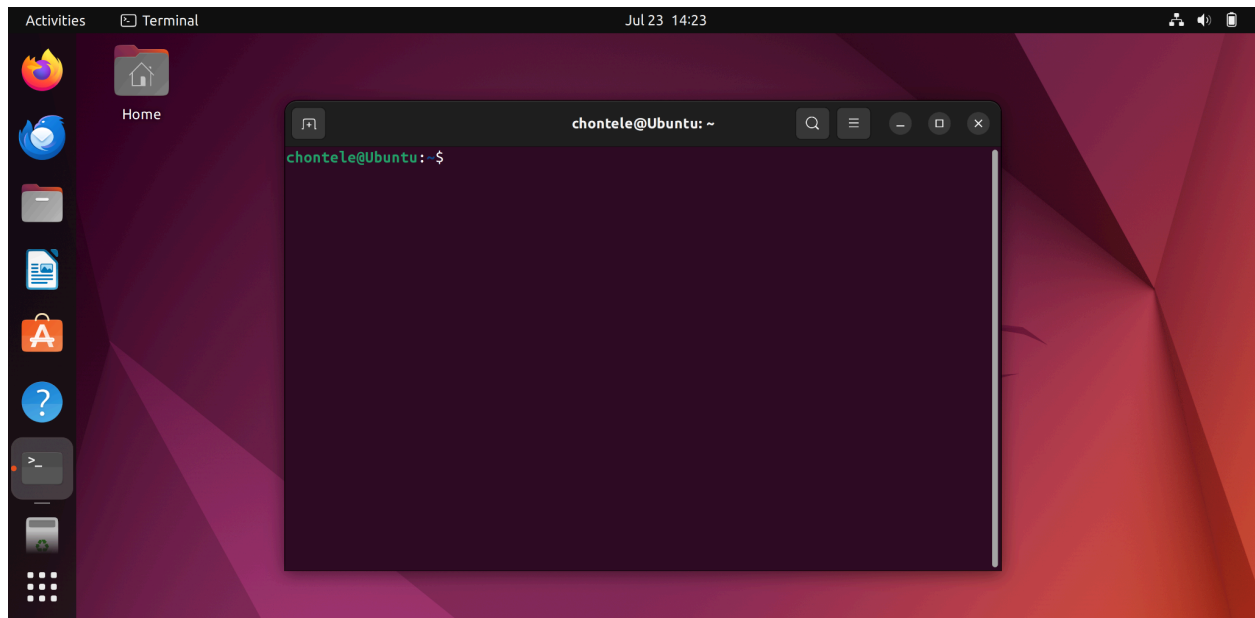
3. Project Files

File	Purpose
user_setup.sh	Adds users from users_to_create.txt
user_remove.sh	Removes users listed in users_to_remove.txt
users_to_create.txt	List of users to add
users_to_remove.txt	List of users to delete
user-setup.log	Logs all script actions

```
chontele@Ubuntu: ~/Linux-user-manager

chontele@Ubuntu:~/Linux-user-manager$ nano user_setup.sh
chontele@Ubuntu:~/Linux-user-manager$ ls
user_setup.sh  users_to_create.txt  users_to_remove.txt
chontele@Ubuntu:~/Linux-user-manager$
```

```
chontele@Ubuntu: ~/Linux-user-manager

chontele@Ubuntu:~/Linux-user-manager$ nano user_remove.sh
chontele@Ubuntu:~/Linux-user-manager$ ls
user_remove.sh  user_setup.sh  users_to_create.txt  users_to_remove.txt
chontele@Ubuntu:~/Linux-user-manager$
```

```
chontele@Ubuntu: ~/Linux-user-manager

chontele@Ubuntu:~/Linux-user-manager$ echo -e "bob\nalice\ncarol" > users_to_create.txt
chontele@Ubuntu:~/Linux-user-manager$ ls
users_to_create.txt
chontele@Ubuntu:~/Linux-user-manager$ cat users_to_create.txt
bob
alice
carol
chontele@Ubuntu:~/Linux-user-manager$
```

```
chontele@Ubuntu: ~/Linux-user-manager

chontele@Ubuntu:~/Linux-user-manager$ echo -e "bob\ncarol" > users_to_remove.txt
chontele@Ubuntu:~/Linux-user-manager$ ls
users_to_create.txt  users_to_remove.txt
chontele@Ubuntu:~/Linux-user-manager$ cat users_to_remove.txt
bob
carol
chontele@Ubuntu:~/Linux-user-manager$
```

4. User Creation

Command Run: sudo bash user_setup.sh

```
chontele@Ubuntu:~/Linux-user-manager$ chmod +x user_setup.sh user_remove.sh
chontele@Ubuntu:~/Linux-user-manager$ sudo bash user_setup.sh
[SUCCESS] Created user: bob
[SUCCESS] Created user: alice
[SUCCESS] Created user: carol
chontele@Ubuntu:~/Linux-user-manager$ cut -d: -f1 /etc/passwd | grep -E 'alice|bob|carol'
bob
alice
carol
chontele@Ubuntu:~/Linux-user-manager$ ls /home
alice  bob  carol  chontele
chontele@Ubuntu:~/Linux-user-manager$
```

5.User Removal

Command Run: sudo bash user_remove.sh

```
chontele@Ubuntu: ~/Linux-user-manager
chontele@Ubuntu:~/Linux-user-manager$ sudo bash user_remove.sh
[INFO] Removing user: bob
userdel: bob mail spool (/var/mail/bob) not found
[SUCCESS] User bob removed.
[INFO] Removing user: carol
userdel: carol mail spool (/var/mail/carol) not found
[SUCCESS] User carol removed.
chontele@Ubuntu:~/Linux-user-manager$ ls tmp | grep '_home_backup.tar.gz'
ls: cannot access 'tmp': No such file or directory
chontele@Ubuntu:~/Linux-user-manager$ ls /tmp | grep '_home_backup.tar.gz'
bob_home_backup.tar.gz
carol_home_backup.tar.gz
chontele@Ubuntu:~/Linux-user-manager$ cut -d: -f1 /etc/passwd | grep -E 'alice|bob|carol'
alice
chontele@Ubuntu:~/Linux-user-manager$
```

6. Log File Verification

Command: cat user-setup.log

```
chontele@Ubuntu: ~/Linux-user-manager
chontele@Ubuntu:~/Linux-user-manager$ cat user-setup.log
=== User Setup Log - Wed Jul 23 01:30:34 PM EDT 2025 ===
[SUCCESS] Created user: bob
[SUCCESS] Created user: alice
[SUCCESS] Created user: carol
=== End of Log ===
==== User Removal Log - Wed Jul 23 01:39:42 PM EDT 2025 ====
[INFO] Removing user: bob
[SUCCESS] User bob removed.
[INFO] Removing user: carol
[SUCCESS] User carol removed.
==== End of Log ====
chontele@Ubuntu:~/Linux-user-manager$
```

7. Lessons Learned

- Importance of file permissions and sudo

- Debugging with tee and structured logging

- Safely backing up data before user removal