Report – Password Management system.

Report- Password Management System

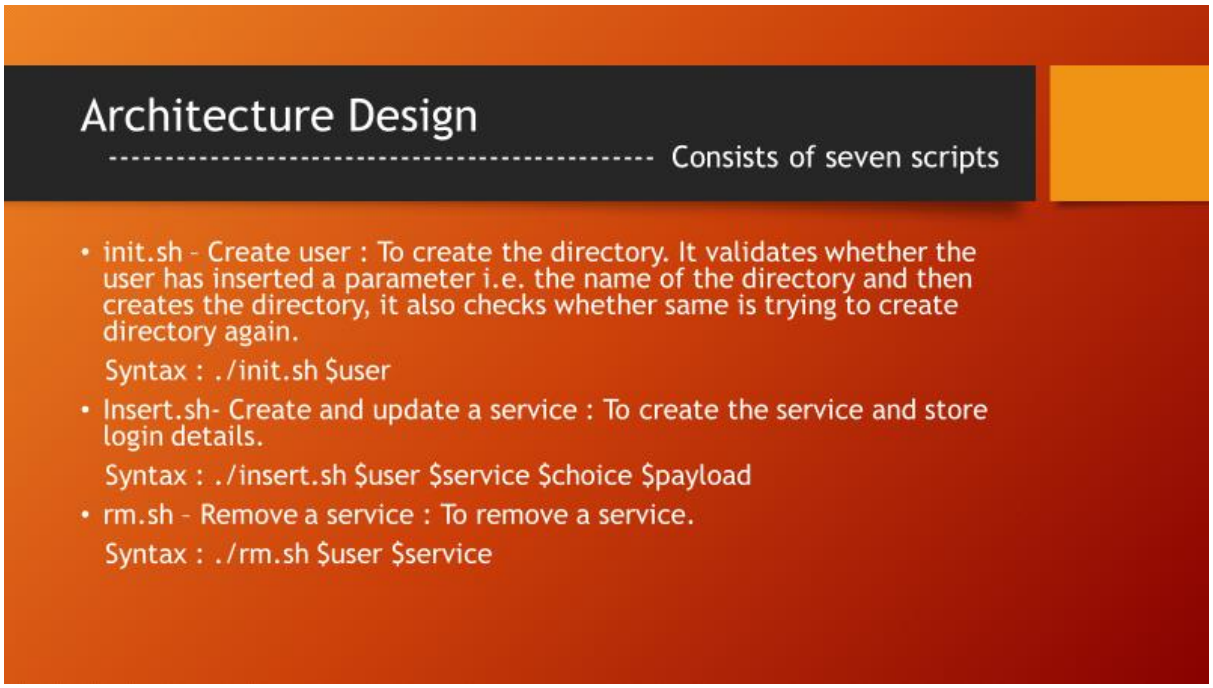
Introduction: In the world of computer and web-applications, security & authentication has become a very crucial part of technology. This requires passwords for authentication. As the authentication has increased it has become very difficult to remember all the passwords and keeping the same password is vulnerable. So, storing the password somewhere user can access is becoming crucial .And this project is a Password Management System using Bash. This system will store various passwords of user.

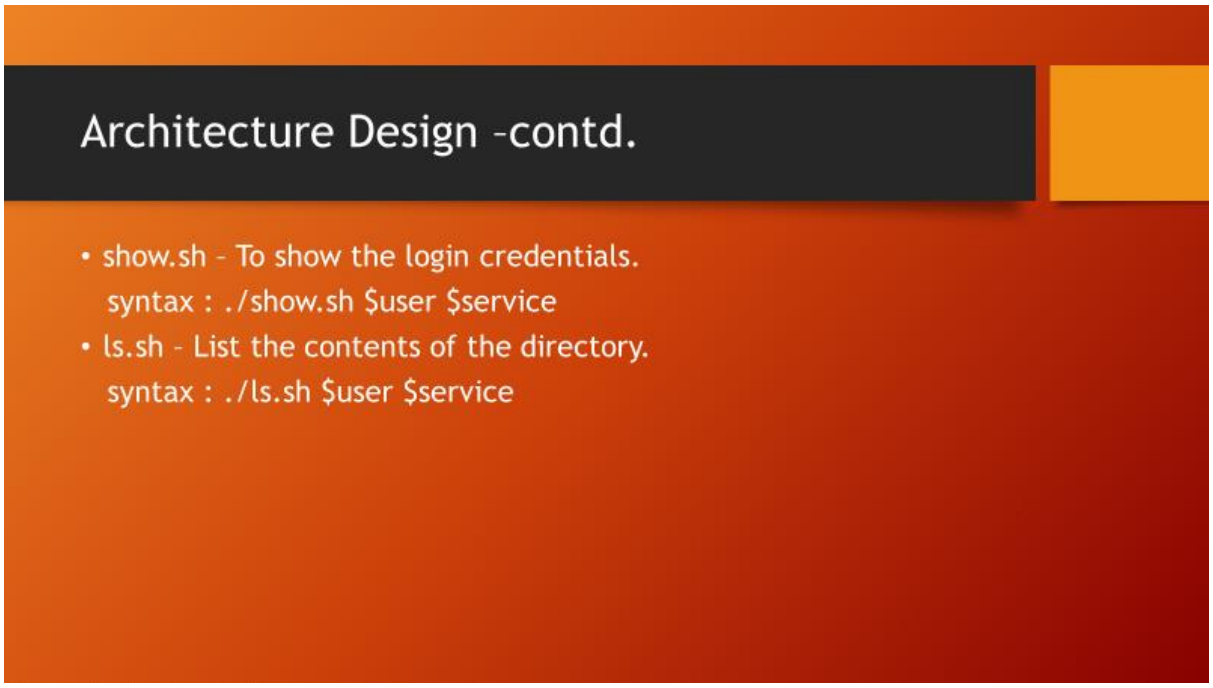
What is it all about …

- This is going to maintain the login IDs and password of the users , it create a separate directory for a user and sub-directory according to the requirement.
- User can check the list of data stored , in a tree structure.
- Update and remove can also be a part of the password management system.
- To get the data related to application ,user can get it on one click.
- Multiple users can use this system at the same time, system should be host on a client side . As multiple users will access this system it should encrypt contents while sending to server and should decrypt the contents while accessing the content of the files.

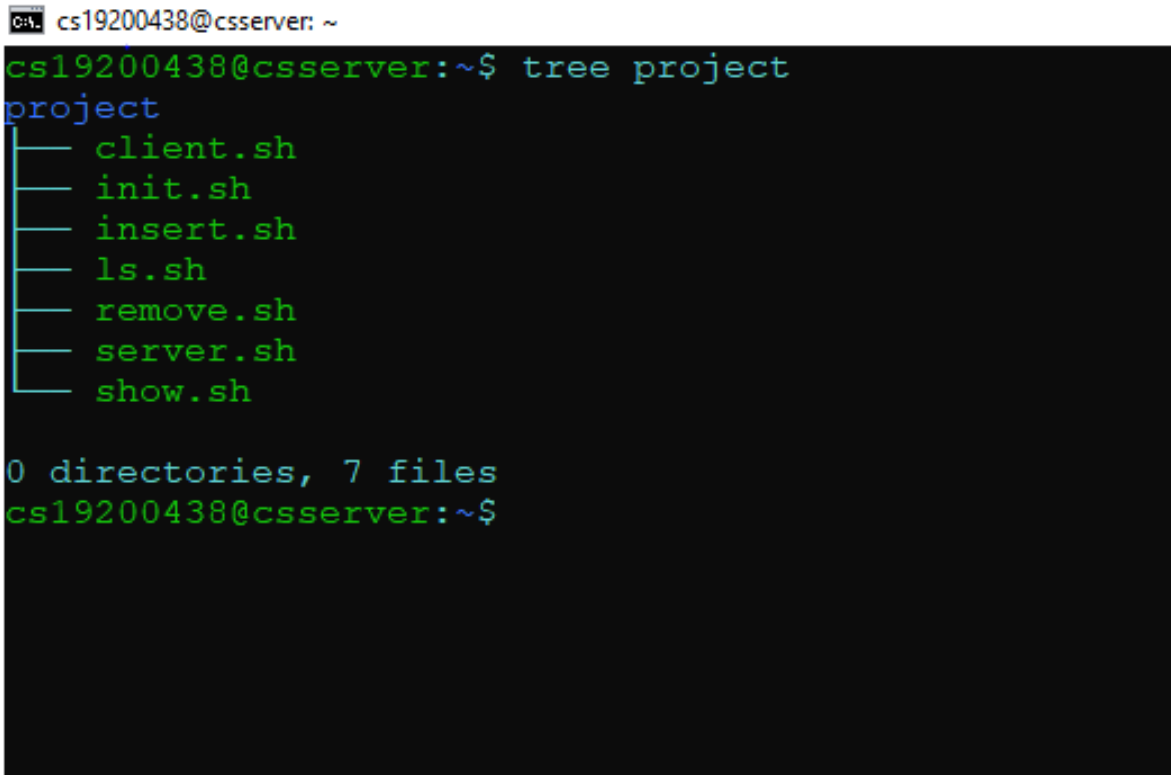
Project Description in details:

The basic architecture and the shells include in the project.





The structure tree of the project directory:



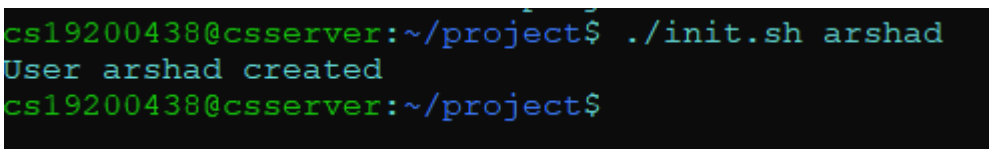
1. ./init.sh

Basic commands used:

touch : to create the file init.sh

chmod u+x : to make it executable

mkdir : to create the directory for user.



2 ./insert

Basic commands used:

pwd : to get the current path.

Cd : for target movement

```
link=`pwd`
link_t="$link/$2"
#echo "$link_t is the link"
file_name="${link_t##*/}"
#echo "$file_name is the file"
directory_name="${link_t//$file_name/}"
#echo "$directory_name is the directory"
if [ "$3" = "i" ];then #to check its insert or update
        if [ -d "$directory_name" ];then
                                cd "$directory_name"
                                if [ -f "$file_name" ]; then
                echo "Error: Service already exsist"
                                else
                                        touch "$file_name"
                echo "$4" >> "$file_name"
                echo "Ok: Service Created"
                                fi
                        else
            mkdir -p "$directory_name"
            cd "$directory_name"
            touch "$file_name"
        user=`echo $4 | cut -d ":" -f 1`
        password=`echo $4 | cut -d ":" -f 2`
            echo -e "login: $user\npassword: $password" >> "$file_name"
            echo "Ok: Service Created"
        fi
```

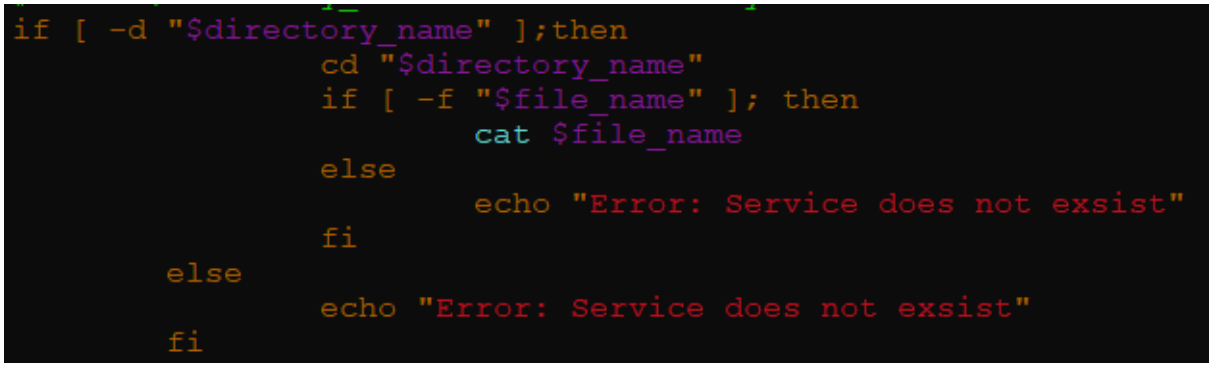
Different arguments and the response:

```
cs19200438@csserver:~/project$ ./insert.sh
Error:the number of parameters is wrong
cs19200438@csserver:~/project$ ./insert.sh arshad bank/ireland/aib.ie i "mylogin password"
Ok: Service Created
cs19200438@csserver:~/project$ ./insert.sh arshad bank/ireland/aib.ie i "mylogin password"
Error: Service already exsist
cs19200438@csserver:~/project$ ./insert.sh xyz bank/ireland/aib.ie i "mylogin password"
Error: User Doesn't exsist
cs19200438@csserver:~/project$
```

3../show.sh

Basic command:

cat :to display the content of the file.



```
if [ -d "$directory_name" ];then
                cd "$directory_name"
                if [ -f "$file_name" ]; then
                        cat $file_name
                else
                        echo "Error: Service does not exsist"
                fi
        else
                echo "Error: Service does not exsist"
        fi
```

Different arguments and the response captured:

```
cs19200438@csserver:~/project$ cs19200438@csserver:~/project$ ./show.sh xyz bank/ireland/aib.ie
Error: User Doesn't exsist
cs19200438@csserver:~/project$ ./show.sh arshad bank/ireland/aib.ie
login: mylogin password
password: mylogin password
cs19200438@csserver:~/project$ ./show.sh arshad bank/ireland/aib.i
Error: Service does not exsist
cs19200438@csserver:~/project$
```

4../ls.sh

Basic command:

tree :to display the tree view of the directory

```
if [ $# -eq 2 ]; then
        if [ -d $1 ]; then
                cd "$1"
                if [ -d $2 ]; then
                        tree $2
                else
                        echo "Error : No such services available" >&2
                        exit 3
                fi
```

Different arguments and the response captured:

```
cs19200438@csserver:~/project$ cs19200438@csserver:~/project$ ./ls.sh arshad bank
bank
└── ireland
    └── aib.ie

1 directory, 1 file
cs19200438@csserver:~/project$ ./ls.sh arshad
arshad
└── bank
    └── ireland
        └── aib.ie

2 directories, 1 file
cs19200438@csserver:~/project$
```

5../remove.sh

Basic command:

rm : to delete the file

rm -r : to delete the directory

rmdir: to delete the empty directory

```
file_name="${link_t##*/}"
directory_name="${link_t//$file_name/}"
if [ -d "$directory_name" ];then
    cd "$directory_name"
    if [ -f "$file_name" ]; then
                        rm -f $file_name
                        echo "Ok: Service Removed"
    else
        echo "Error: Service does not exsist"
    fi
        else
                echo "Error: Service does not exsist"
        fi
```

Different arguments and the response captured:

```
cs19200438@csserver:~/project$ cs19200438@csserver:~/project$ ./remove.sh arshad bank/ireland/aib.ie
Ok: Service Removed
cs19200438@csserver:~/project$ tree arshad
arshad
└── bank
    └── ireland

2 directories, 0 files
cs19200438@csserver:~/project$ ./remove.sh arshad
Error:the number of parameters is wrong
cs19200438@csserver:~/project$
```

6../server.sh

Basic command:

```
PIPE_SERVER="server.pipe"
#creating server pipe if not exists
if [ ! -e "$PIPE_SERVER" ]; then
        mkfifo "$PIPE_SERVER"
fi

trap "exit_interrupted" INT

function exit_interrupted()
{
rm -f "$PIPE_SERVER"
exit 0
}
```

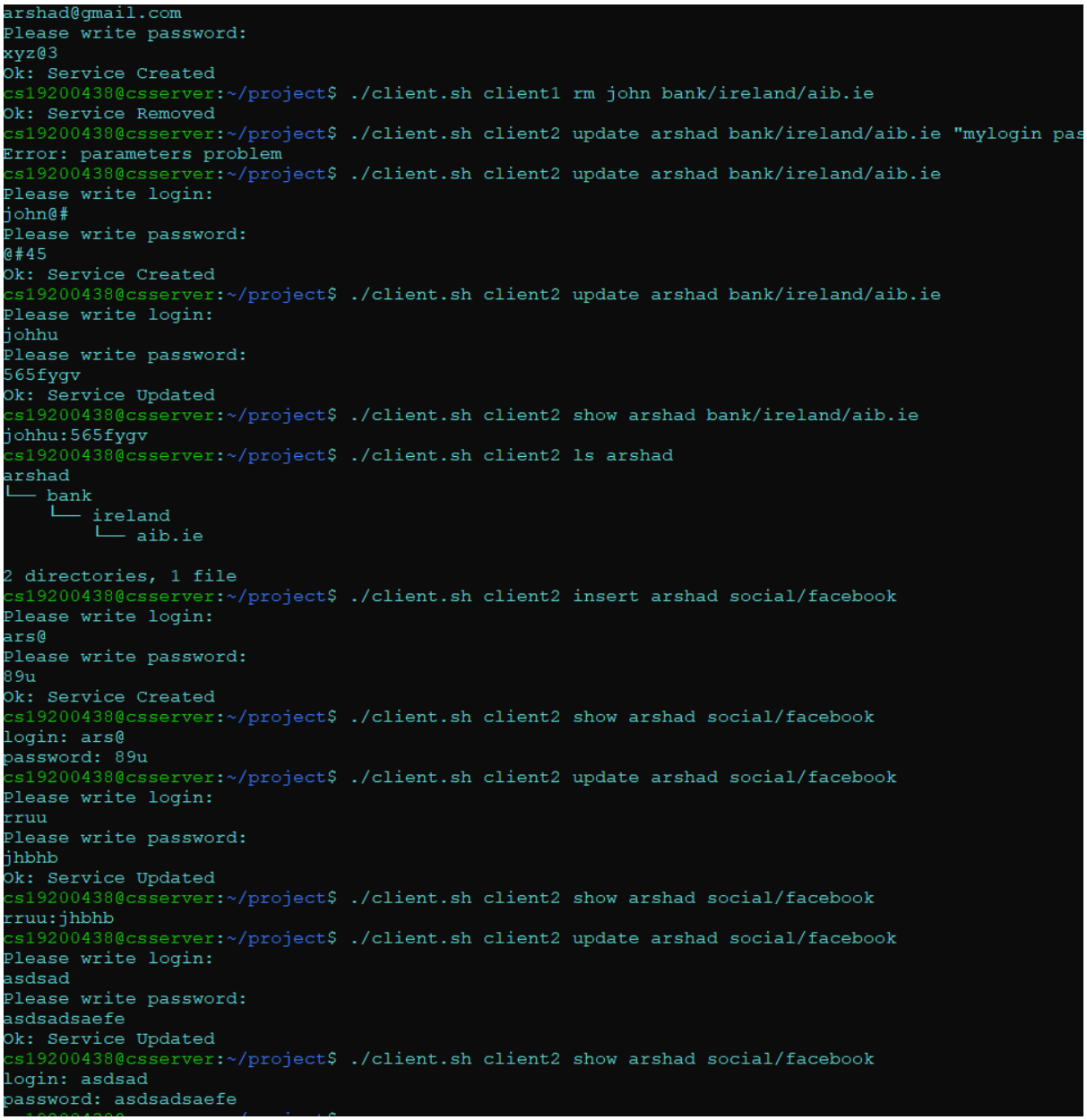
```
read input < "$PIPE_SERVER"
echo "Input Received: $input"

clientId=`echo $input | cut -d " " -f 1`
request=`echo $input | cut -d " " -f 2`
```

7../client.sh

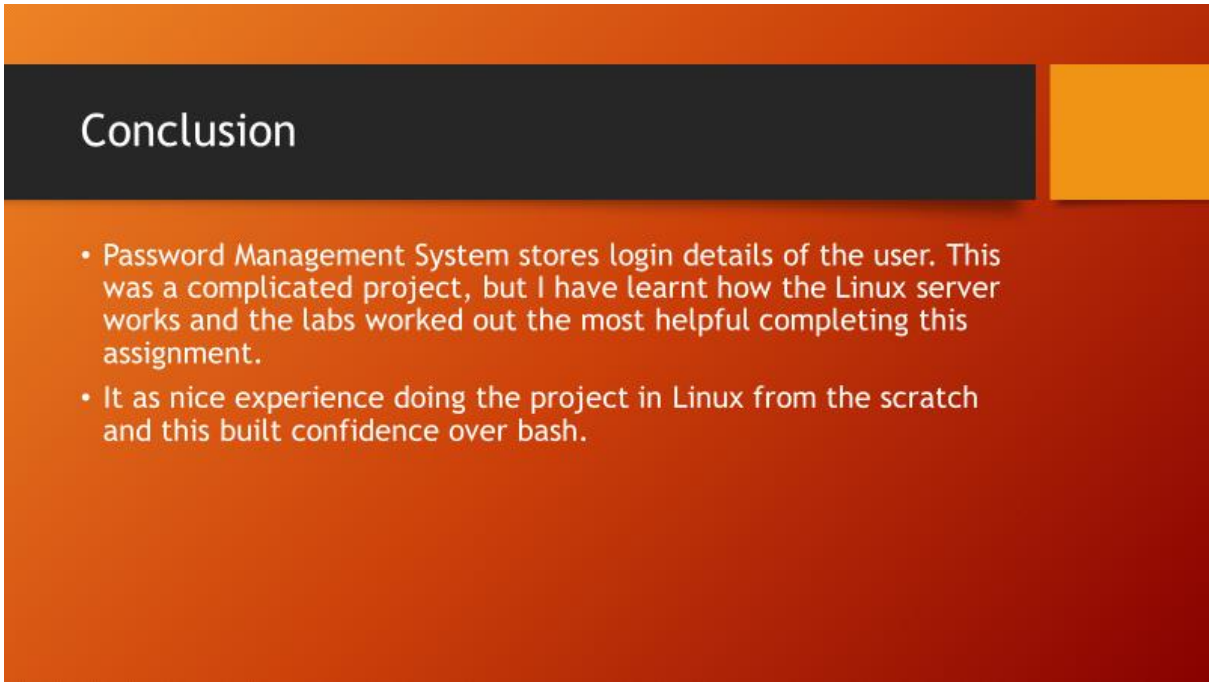
Basic command:

```
pipe_server="server.pipe"

if [ ! -e "$pipe_server" ]; then
        echo "Error: Server not started"
        exit 2
fi

trap "exit_interrupted" INT

function exit_interrupted()
{
rm -f "$pipe_server"
exit 0
}

client_id=$1
pipe_client="$client_id".pipe
option=$2

rm -f "$pipe_client"
mkfifo "$pipe_client"

case "$option" in
        init)
                if [ $# -ne 3 ]; then
                echo "Error: parameters problem"
                rm -f "$pipe_client"
                exit 3
                fi
                user_id="$3"
                echo "$client_id $option $user_id" > $pipe_server
                cat "$pipe_client"
                ;;
        insert)
                if [ $# -ne 4 ]; then
                echo "Error: parameters problem"
                rm -f "$pipe_client"
                exit 4
                fi
                echo "Please write login:"
                read login
                if [ -z "$login" ]; then
                        echo "Error: login is not valid."
                        rm -f "$pipe_client"
                        exit 1
                fi
                echo "Please write password:"
                read password
                if [ -z "$password" ];then
                        echo "Error: login is not valid."
                        rm -f "$pipe_client"
```

Sample screen shot from client.sh and server.sh running shell.



Conclusion:


Conclusion
• Password Management System stores login details of the user. This was a complicated project, but I have learnt how the Linux server works and the labs worked out the most helpful completing this assignment.
• It as nice experience doing the project in Linux from the scratch and this built confidence over bash.