Sarvvid INTRANET : DECENTRALIZED FILE STORAGE

The system Sarvvid INTRANET : DECENTRALIZED FILE STORAGE will help in storing the files decentralizely over systems that are connected by the common internal network in the organization.

Uploading the Files

-User will select the file of any format that he wishes to upload using our system and the following processes will take place for the uploaded file -

-Files uploaded using the Software will be :

-Encrypted using a Unique Encrption Key

-Sharding of the file into pieces called WADS

-Compression would be taking place on these WADS

- After all the above processes are completed these WADS are sent to the other systems in the same internal network for providing the Decentralized storage.

Retrieving the files

-For retrieving back the files user simply enter the file name which he/she needs to download and after entering the name the WADS for the corresponding file would be retrieved back to the system and after that following processes would take place

- Decompression of the WADS

- Reverse Sharding of the WADS to form a file.

- Decryption after entering the authorized encryption key

- After completion of the above processes the files would be retrieved back.

MAJOR FEATURES

- If the Decentralized file Storage System is initiated for the first time the main root user for the software will enter a root username and password that will be entered by the root user at the time of managing the system by the ROOT user Only.

- Multiple Users can be created with different Username and Password.

- These so created Users can Upload and Retrieve there files Decentralizely over the common internal network.

- One user can not retrieve the files of the other users without knowing there authorised Username and Password, hence the users are restricted from seeing the contents of other users without proper authorization.

- Only the Root User has the capability to see the number of users so created in the System and can also see the file so uploaded by those users.

- The main ROOT user who has the main authorization for the Software over the network can completely manage the users by adding new users and also by deleting the existing ones.

- The Root User can download the files of any user in the system after entering the root name and password that was created when the system started the first time.

- If the system shuts down due to any reason and the system closes, simply restart the software system , all the data and contents will be intact .

- Users can also connect the desired systems to the network where they want there wads to resite , this process is also taken care off as a feature of adding the IP of the desired system is provided in the user interface it .

- In Order to chnage the list of systems simply restart the software and add the new desired system's IP address.

- If any error occurs simply restart the software and do the processes again.

- If any User forgots his password then the password could be update using the root system and root user can update his password after entering the correct root credentials.

- By using this software the users can use there unused space in other systems in other to store the files and data and also these files and data so stored would be more securely and also would reside in the organization itself.

- For using this product the oragnization only need a Internal Network so that the systems can communicate with each other and the system also do not require any kind Internet connection hence the data won't go out from the organization hence increase in the security is there.

OUR DECENTRALIZED FILE STORAGE SYSTEM can be used in Two WAYS

1. **SINLE ROOT SYSTEM**

- The software system in which there is only One ROOT system handled by user root that is responsible for creating Multiple Users in the software system.

- The ROOT SYSTEM is only the system which is responsible for uploading and retrieving the files for all the users so created .

-The other system in the network will only provide the decentralised storage to the files that are been send by the root system.

2. **MULTIPLE ROOT SYSTEM**

- In this system there can be multiple Root Systems which can create there own multiple Users which can upload and retrieve the file from there own respective root systems only.

- In this software system the Systems can act as both the root systems as well as the systems that can provide storage for the files .

NON DATA LOSS SYSTEM

- If in some conditions like network error or system malfunctioning, if the WADS are not been able to properly reach the other recieving systems or if are send incomplelty than also there would be no loss in the file's data , as the WADS so created by the Root System for that file will provide the WADS that is missing or not reciecved completely at the time of retrieving. In this way the data loss for the file is also taken care off.

- the wads so Stored in the Root System are also Encrpted and Compressed so no other User can see the file's data other than the authorized User.

BACKUP

- The backup for the files so uploaded will be kept in the root system .

- The backup so created for the files will not be the simple backing of files, the files so stored will be encryted by the unique key that will be kept by the user itself.

- In this way the backup of the files will also be created and files are not seen by others are also taken care off.

- If due to some reason the root system is not working correctly and if the user wants to shift the software from one system to another without any data loss than the user can use the BACKUP button in the manage menu and after authorization the important files and data would be backed up in the folder named BACKUP.

- NOW the user simply exact all the contents of the BACKUP directory into another system's Decentralised_Storage folder and can work same as it was done in the previous system.

-NOTE – Inorder to create the network in the organization, share the folder given by vender to all the systems who are allowed to take part in the network for Decentralisly storing the data in the network, before excecuting any of the given commands in the further discription below .

- After sharing of the folder given by the vendors to the systems simply execute the commands depending on the Operating Systems as mentioned further in the documentation.

- If the user wants to add any system into the network afterwards he/she must contact to the vender and can make a addition to the network by following the prescibed process by the vendor.

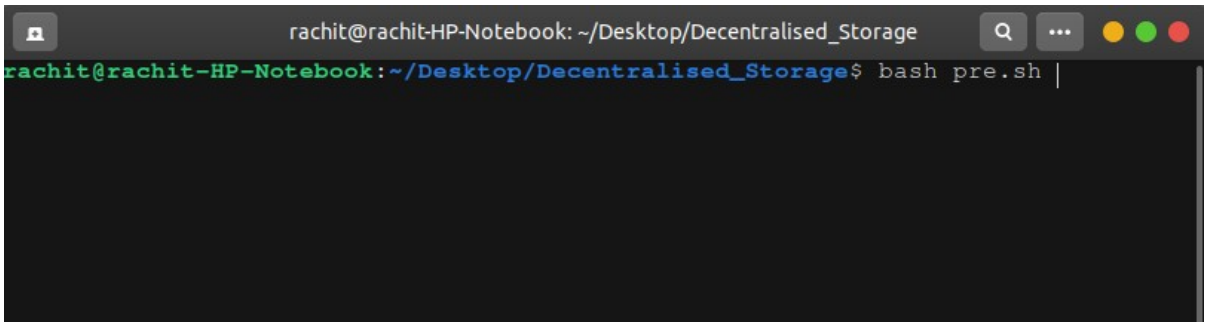
LINUX OPERATING SYSTEM

A - FIRST TIME USAGE

STEP -1

-For the first time open a terminal and navigate to the folder 'Desktop/Decentralised_Storage/'

-Write command ==> "bash pre.sh" and press enter

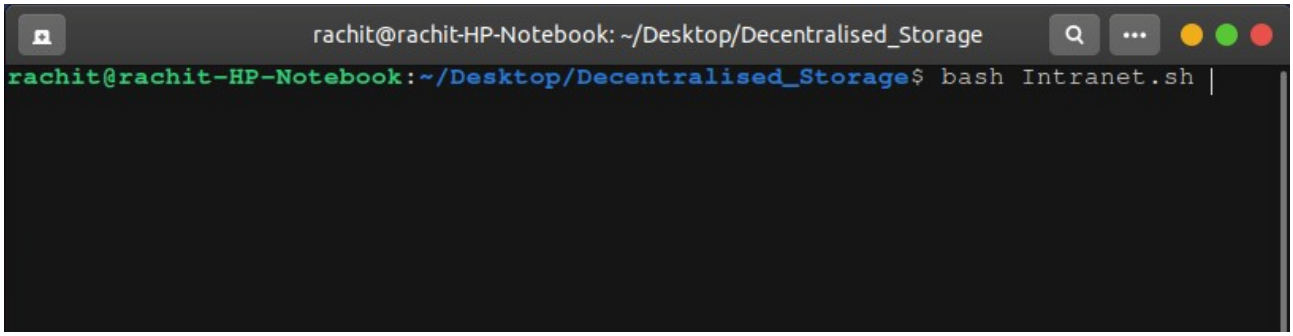


- The above command will install all the dependency and will also setup all the necessary requirements for the software to run on the Linux Operating Systems .

- Once the command is executed completely now the user is ready to use the software .

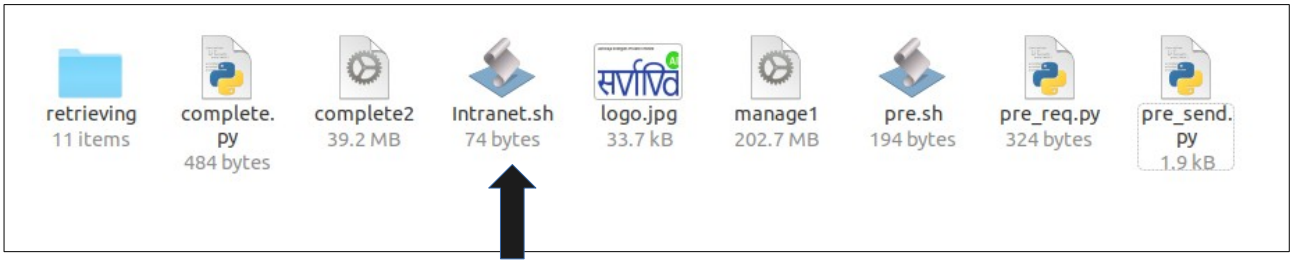
To use the Software -

1.1 Open the terminal and navigate to **Desktop/Decentralised_Storage/ (cd Desktop/Decentralised_Storage)** and enter the command **"bash Intranet.sh"** and press enter

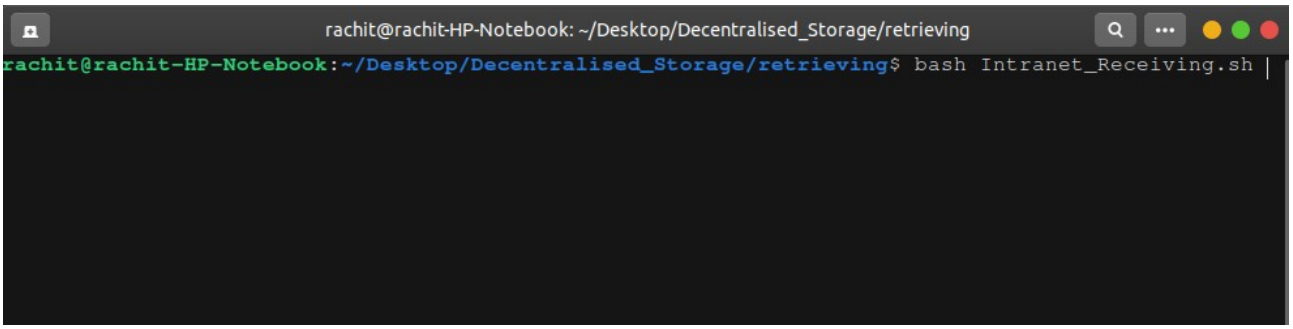


OR

1.1 In order to open our software the user can also navigate to the folder **"Decentralised_Storage"** located on **Desktop** and then find a file named **"Intranet.sh"** and double click on it to open our system directly from the file without opening any terminal.



1.2 Simultaneously, open another terminal and naviagte to **Desktop/Decentralised_Storage/retrieving (cd Desktop/Decentralised_Storage/retrieving)** and enter the command **“bash Intranet_Receiving.sh”** and press enter .



Step 1.2 is done so as to make the current working system as a NODE itself for Storing the Data(Will store a WAD for the files uploaded from the system) .

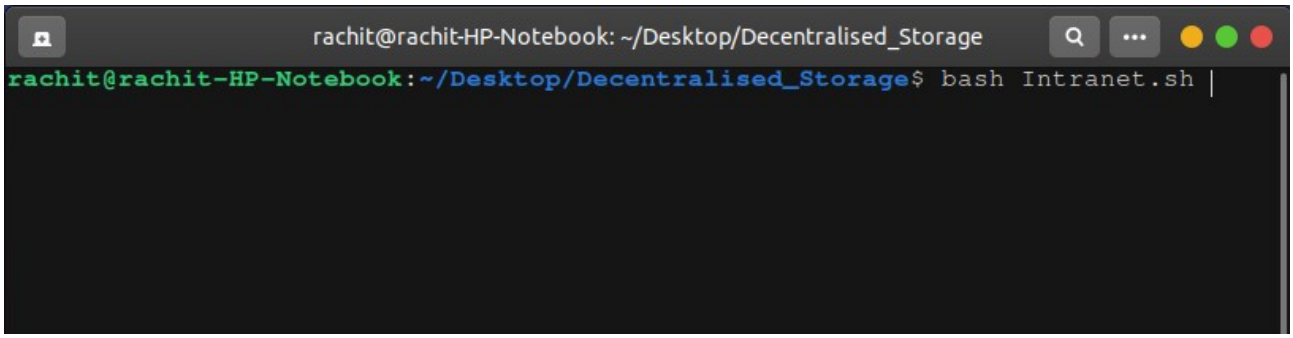
Now the user is ready to use the Software by making new login credentials for the root user that can be used by the user root user for managing the complete software as mentioned above in the Documentation .

B -<u>AFTER THE FIRST TIME INSTALLATION</u>

To use the Software -

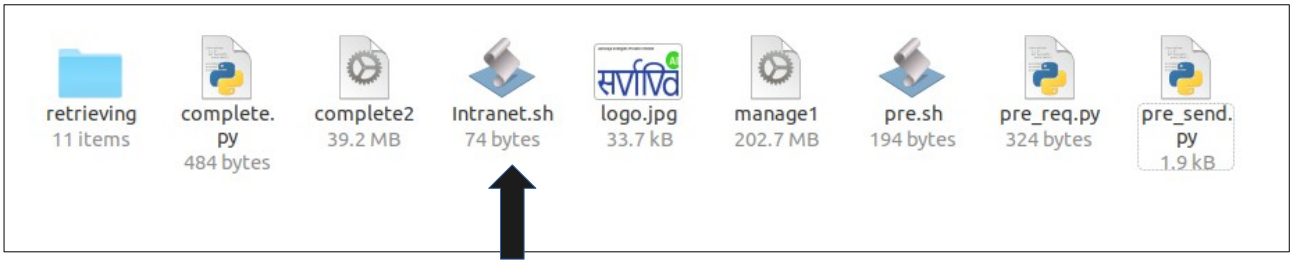
STEP -1

1.1 Open the terminal and navigate to **Desktop/Decentralised_Storage/ (cd Desktop/Decentralised_Storage)** and enter the command **“bash Intranet.sh”** and press enter .

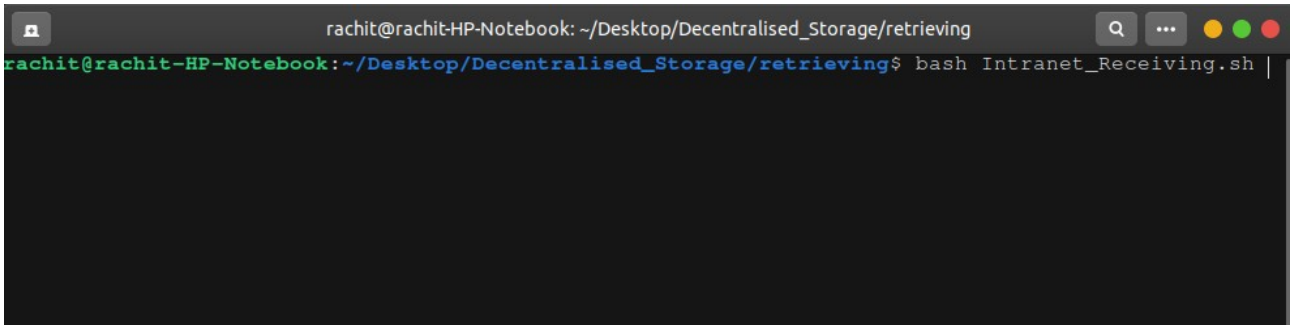


OR

1.1 In order to open our software the user can also navigate to the folder **“Decentralised_Storage”** located on **Desktop** and then find a file named **“Intranet.sh”** and double click on it to open our system directly from the file without opening any terminal.



1.2 Simultaneously, open another terminal and naviagte to **Desktop/Decentralised_Storage/retrieving (cd Desktop/Decentralised_Storage/retrieving)** and enter the command **“bash Intranet_Receiving.sh”** and press enter.



Step 1.2 is done so as to make the current working system as a NODE itself for Storing the Data(Will store a WAD for the files uploaded from the system).

(OPENING THE SOFTWARE USING THE TERMINAL IS ALWAYS THE RECOMMENTED WAY)

NOTE - IF ANY ISSUES OCCURS CONTACT THE SOFTWARE PROVIDING VENDER .

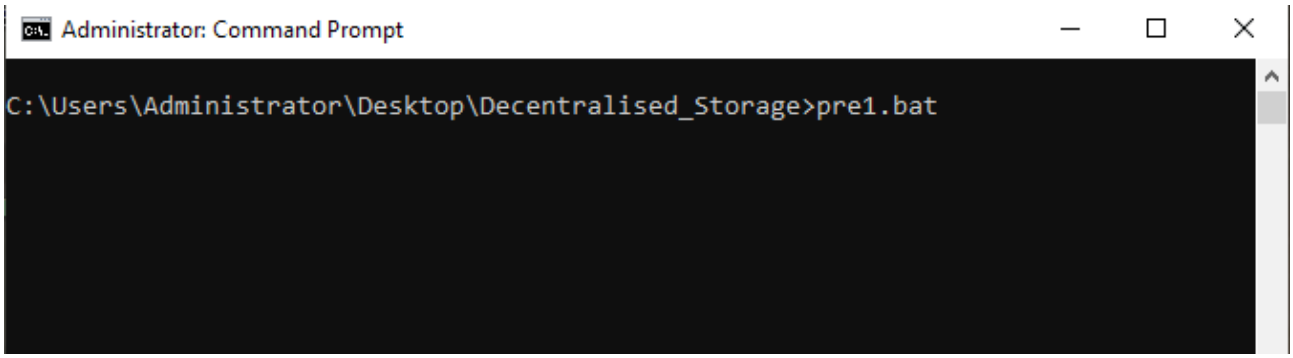
WINDOWS OPERATING SYSTEM

A - FIRST TIME USAGE

STEP -1

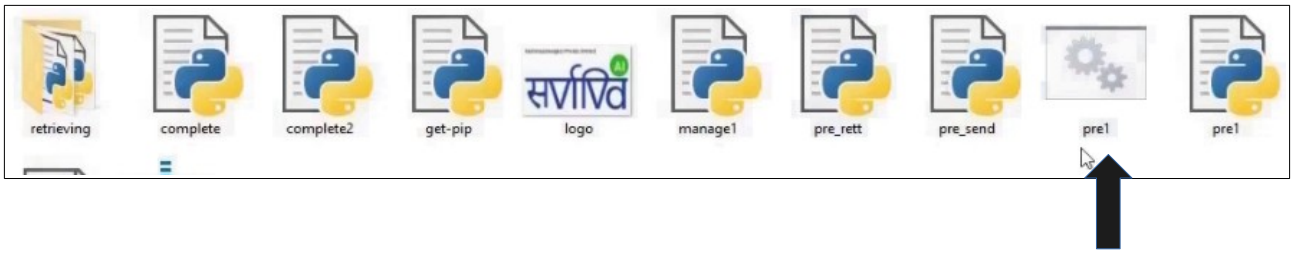
1.1 -For the first time open a cmd terminal and navigate to the folder 'Desktop/Decentralised_Storage/'

-Write command ==> "pre1.bat" and press enter



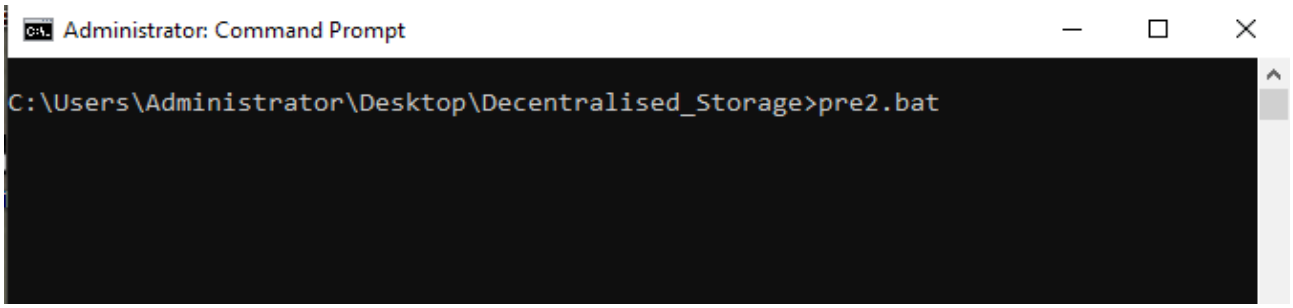
OR

1.1 For the first time the users can also navigate to the folder **"Decentralised_Storage"** located on **"Desktop"** and can find the file named **"pre1" or "pre1.bat"**. After finding the file just double click on the file for initializing the file's working.



1.2 -Open another cmd terminal and navigate to the same location i.e Desktop/Decentralised_Storage/

-Write command ==> "pre2.bat" and press enter



OR

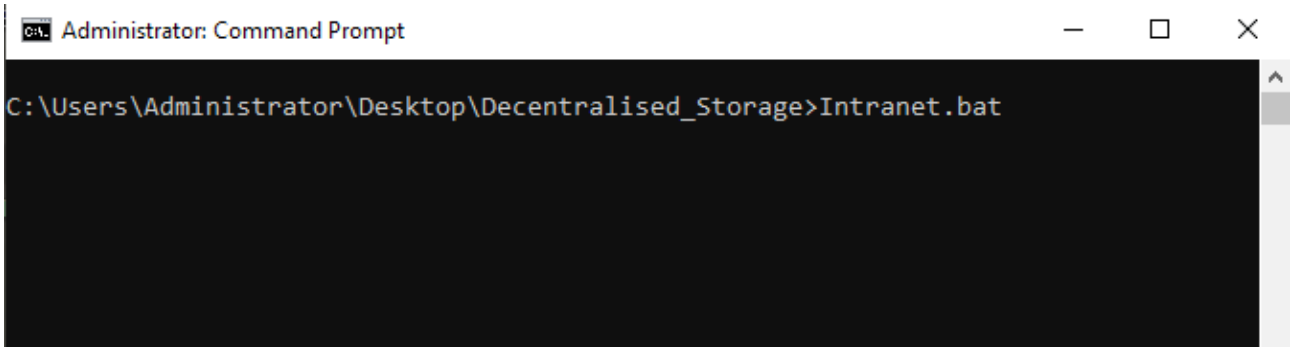
1.2 After initializing the first script the users can now navigate to the folder **“Decentralised_Storage”** located on **“Desktop”** and can find the file named **“pre2” or “pre2.bat”**. After finding the file just double click on the file for initializing the file’s working.

- The above command will install all the dependency and will also setup all the necessary requirements for the software to run on the WINDOWS Operating Systems .

- Once the command is executed completely now the user is ready to use the software .

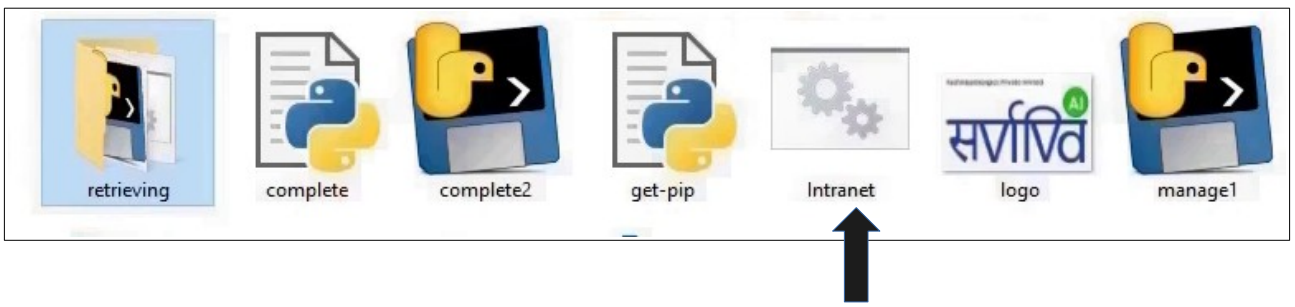
To use the Software -

1.1 Open the cmd and navigate to **Desktop/Decentralised_Storage/ (cd Desktop/Decentralised_Storage)** and enter the command **“Intranet.bat”** and press enter

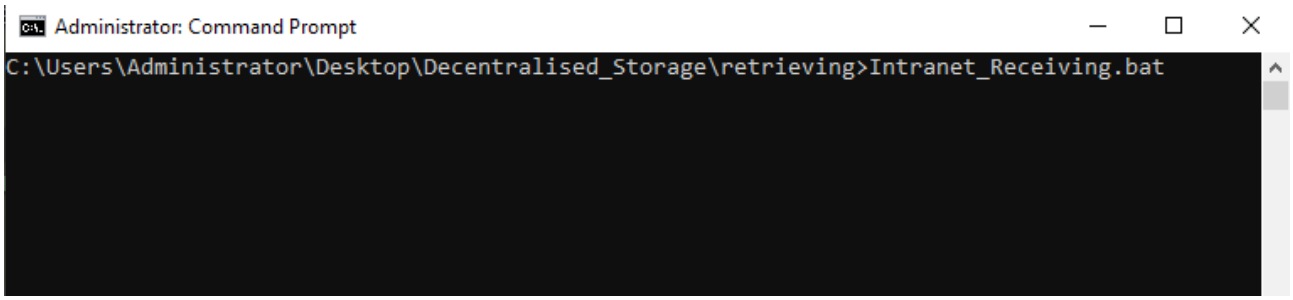


OR

1.1 The user can navighate to the folder named **“Decentralised_Storage”** located on **“Desktop”** and find the file named **“Intranet or Intranet.bat”**. After locating the file just double click on the file to open the software.

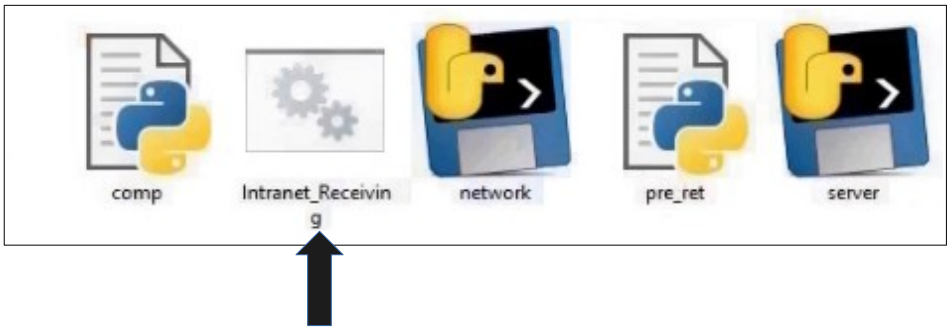


1.2 Simultaneously, open another terminal and naviagte to **Desktop/Decentralised_Storage/retrieving (cd Desktop/Decentralised_Storage/retrieving)** and enter the command **“Intranet_Receiving.bat”** and press enter .



OR

1.2 The user can navighate to the folder named **“Decentralised_Storage/retrieving”** located on **“Desktop”** and find the file named **“Intranet_Receiving or Intranet_Receiving.bat”**. After locating the file just double click on the file to initialize the file’s working.



Step 1.2 is done so as to make the current working system as a NODE itself for Storing the Data(Will store a WAD for the files uploaded from the system) .

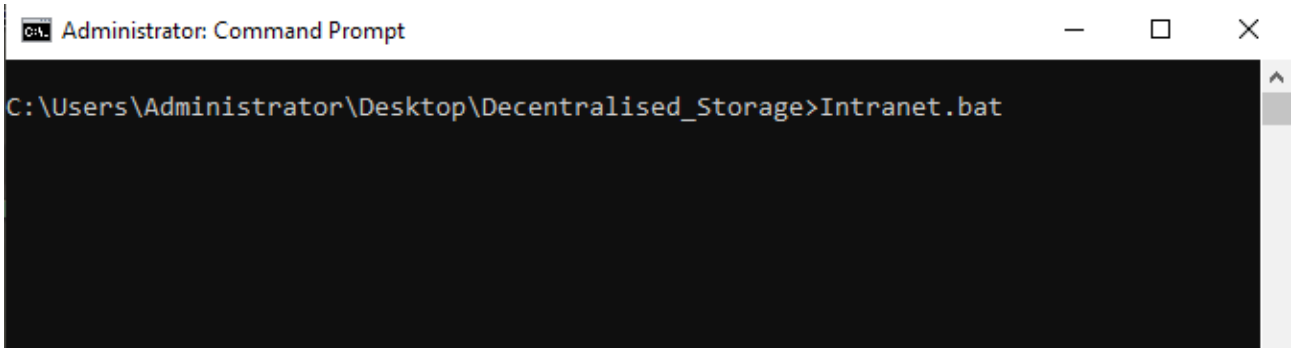
Now the user is ready to use the Software by making new login credentials for the root user that can be used by the user root user for managing the complete software as mentioned above in the Documentation .

B -<u>AFTER THE FIRST TIME INSTALLATION</u>

To use the Software -

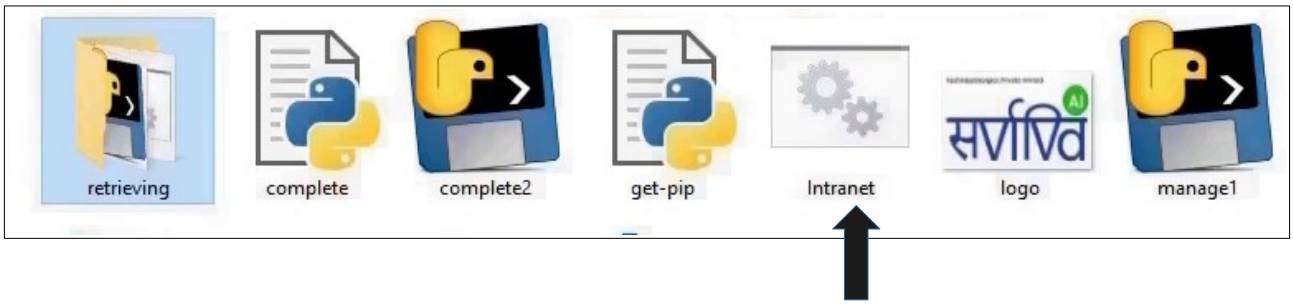
STEP -1

1.1 Open the cmd and navigate to **Desktop/Decentralised_Storage/ (cd Desktop/Decentralised_Storage)** and enter the command **“Intranet.bat”** and press enter .

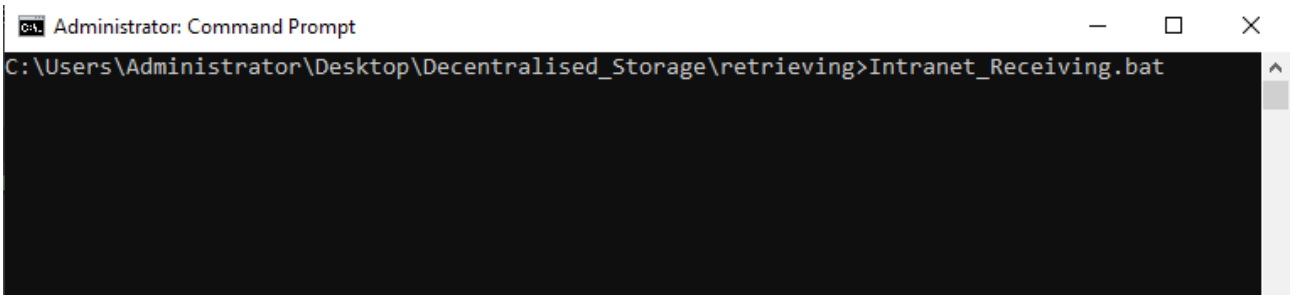


OR

1.1 The user can navighate to the folder named **“Decentralised_Storage”** located on **“Desktop”** and find the file named **“Intranet or Intranet.bat”**. After locating the file just double click on the file to open the software.

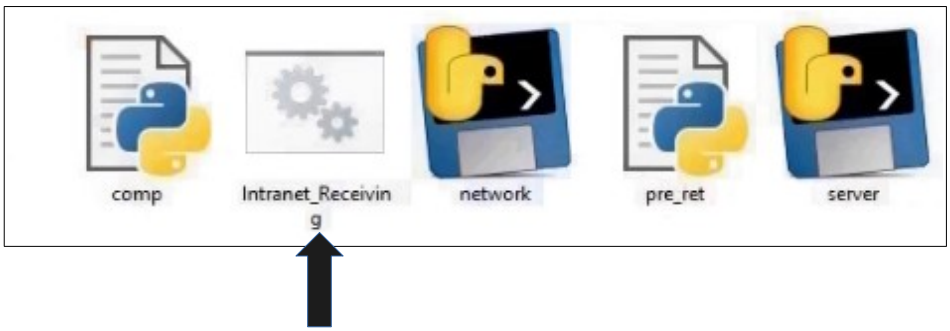


1.2 Simultaneously, open another terminal and naviagte to **Desktop/Decentralised_Storage/retrieving (cd Desktop/Decentralised_Storage/retrieving)** and enter the command **“Intranet_Rec.bat”** and press enter.



OR

1.2 The user can navighate to the folder named **“Decentralised_Storage/retrieving”** located on **“Desktop”** and find the file named **“Intranet_Receiving or Intranet_Receiving.bat”**. After locating the file just double click on the file to initialize the file’s working.



Step 1.2 is done so as to make the current working system as a NODE itself for Storing the Data(Will store a WAD for the files uploaded from the system).

<u>NOTE-</u> The encrypted key for the files uploaded , stored in the file named “key.txt” at location “Desktop/Decentralised_Storage” only stores the encrypted key for the file that is most recently uploaded.

-The user needs to maintain a record for the keys as soon as the file is uploaded with himself securely as these keys will help him to get back his file/data .

- In this way the user can secure its data/file in more efficent manner.

If the keys are lost or not maintained or deleted due to any reason contact the software providing company for retrival of the keys.

-The BACKUP feature in the MANAGE menu should be only used when needed and should not be use ofen for simply backing the data periodically . That means this feature is meant only ot be used when the user needs to migrate his data from one system to another.

- In the new system simply copy the BACKUp folder from the old system and copy all the contents inside it to the folder “Decentralised_Storage” and run the software in the new system again.

(OPENING THE SOFTWARE USING THE TERMINAL IS ALWAYS THE RECOMMENTED WAY)

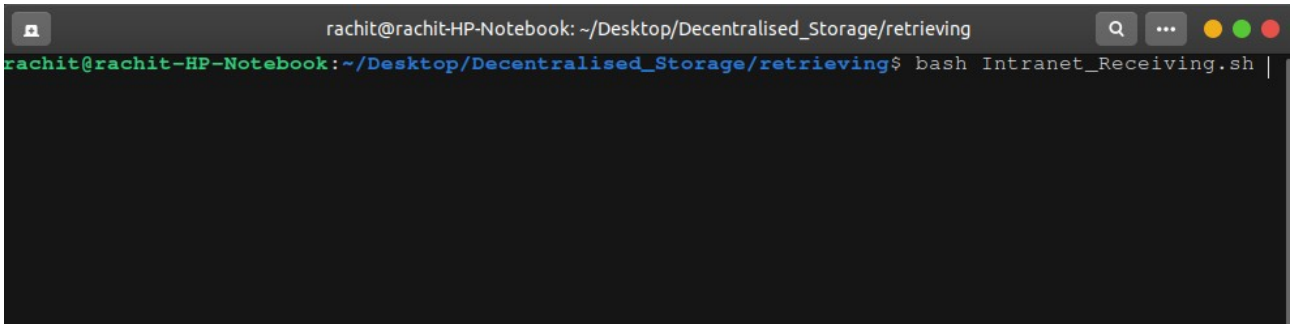
NOTE - IF ANY ISSUES OCCURS CONTACT THE SOFTWARE PROVIDING VENDER .

- For making systems NODES that means a system that only stores file and do not send files to other for storage.

LINUX OPERATING SYSTEM

- Follow all the above steps for the first time installation in the Linux systems.

-Open terminal and naviagte to **Desktop/Decentralised_Storage/retrieving (cd Desktop/Decentralised_Storage/retrieving)** and enter the command **"bash Intranet_Receiving.sh"** and press enter .



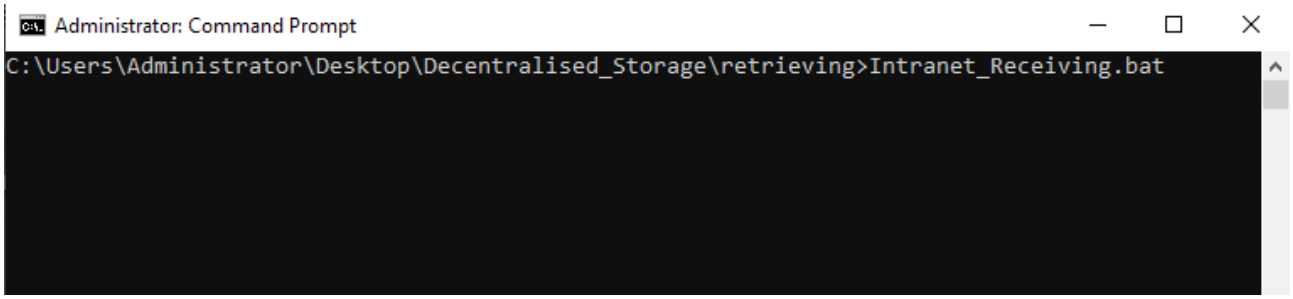
-Now that particular system will be ready for recieving and storing the files sent from the other systems in the same network.

- The above scripts should be kept running at the time of sending and recieving the Wads from the different machine.(The scripts can be terminated after usage but should always be kept running while doing the process of sending and recieving.)

WINDOWS OPERATING SYSTEM

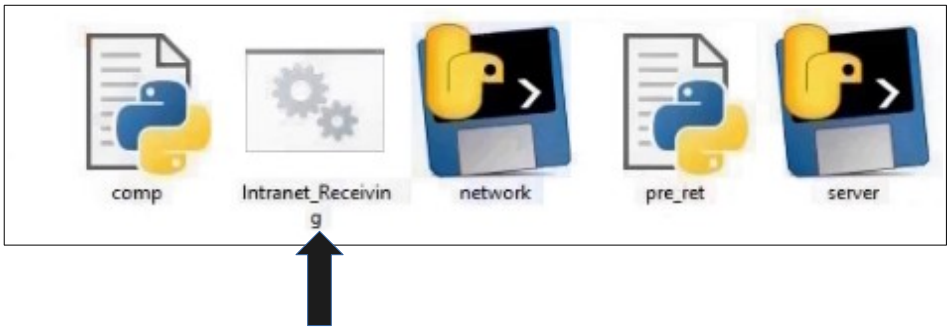
- Follow all the above steps for the first time installation in the Windows systems.

-Open another terminal and naviagte to **Desktop/Decentralised_Storage/retrieving (cd Desktop/Decentralised_Storage/retrieving)** and enter the command **"Intranet_Receiving.bat"** and press enter .



OR

The user can navighate to the folder named **"Decentralised_Storage/retrieving"** located on **"Desktop"** and find the file named **"Intranet_Receiving or Intranet_Receiving.bat"**. After locating the file just double click on the file to initialize the file's working.



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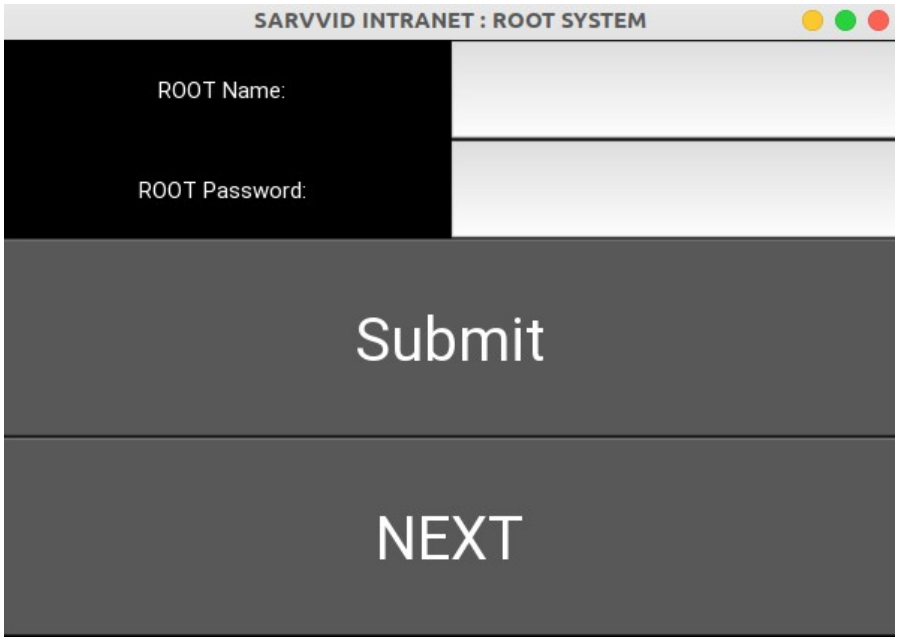
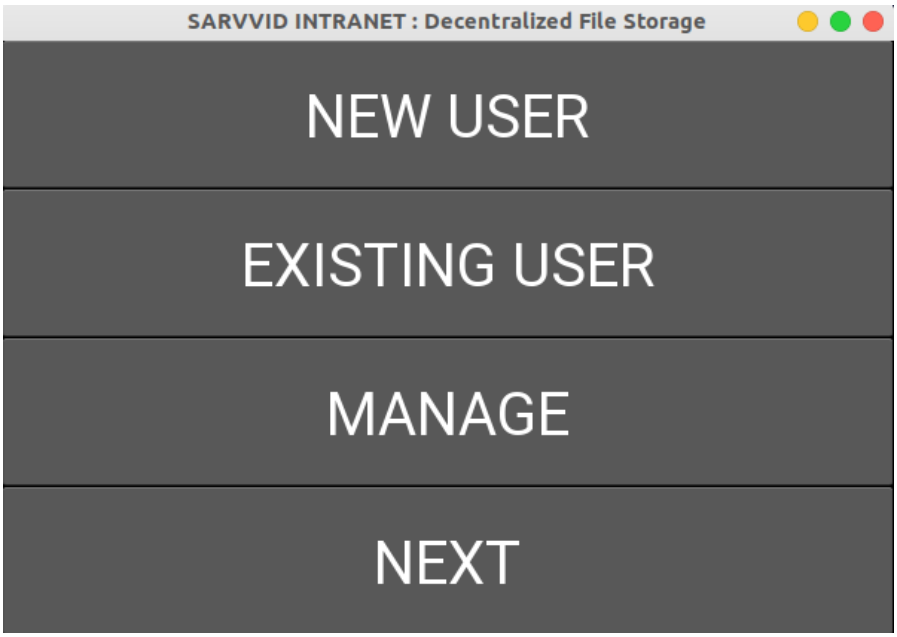
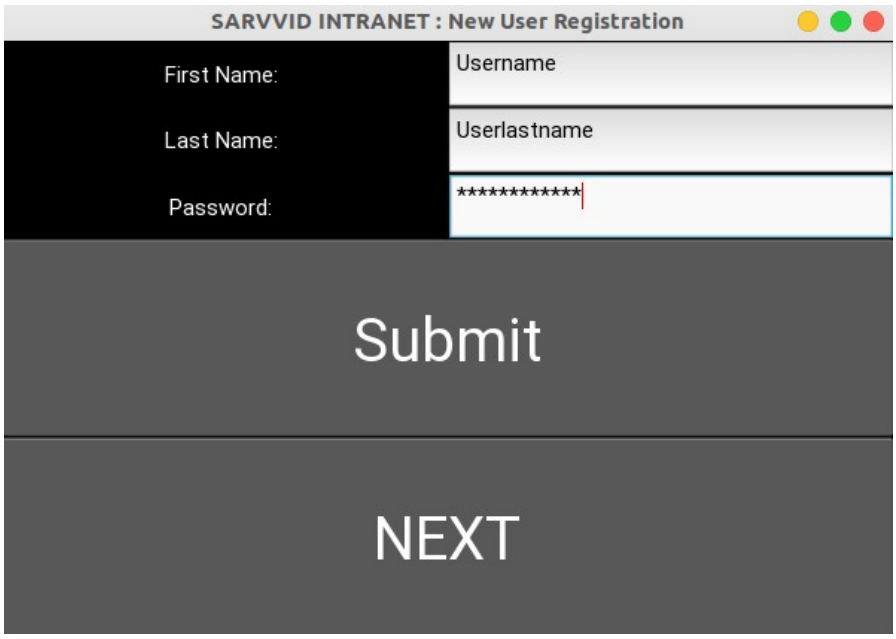
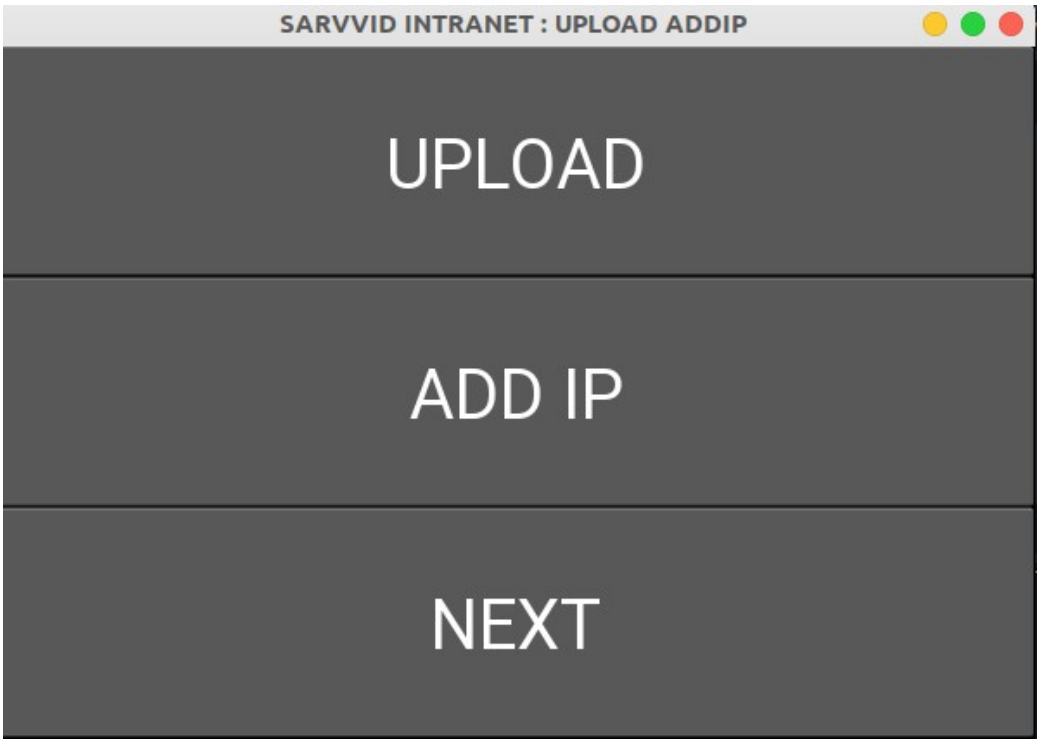
NOTE - IF ANY ISSUES OCCURS CONTACT THE SOFTWARE PROVIDING VENDER .

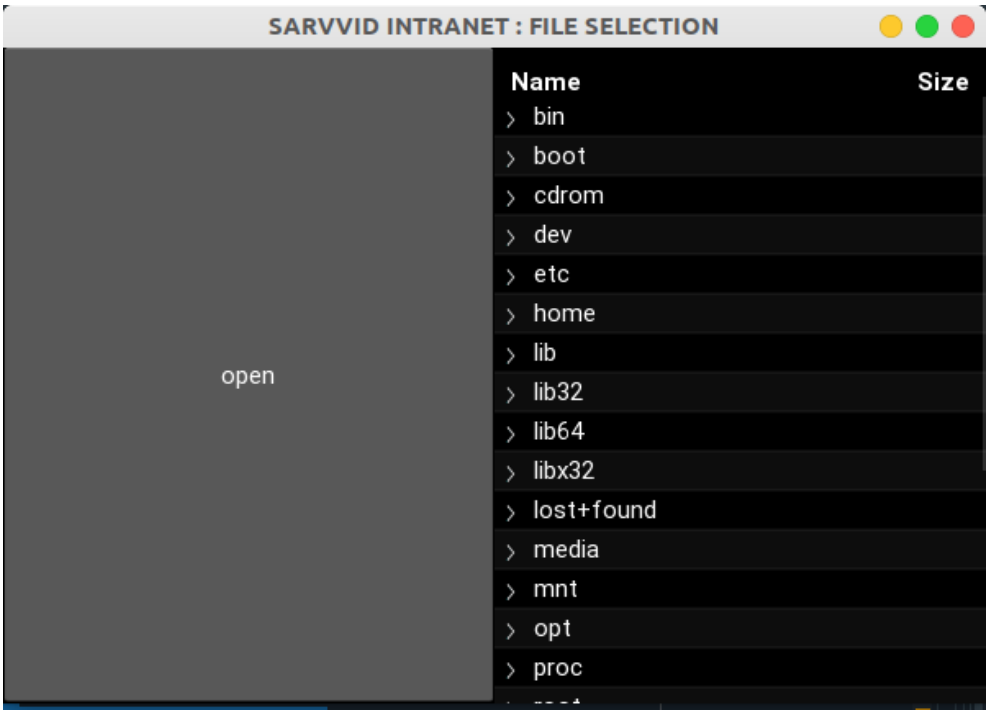
SOFTWARE WORK FLOW

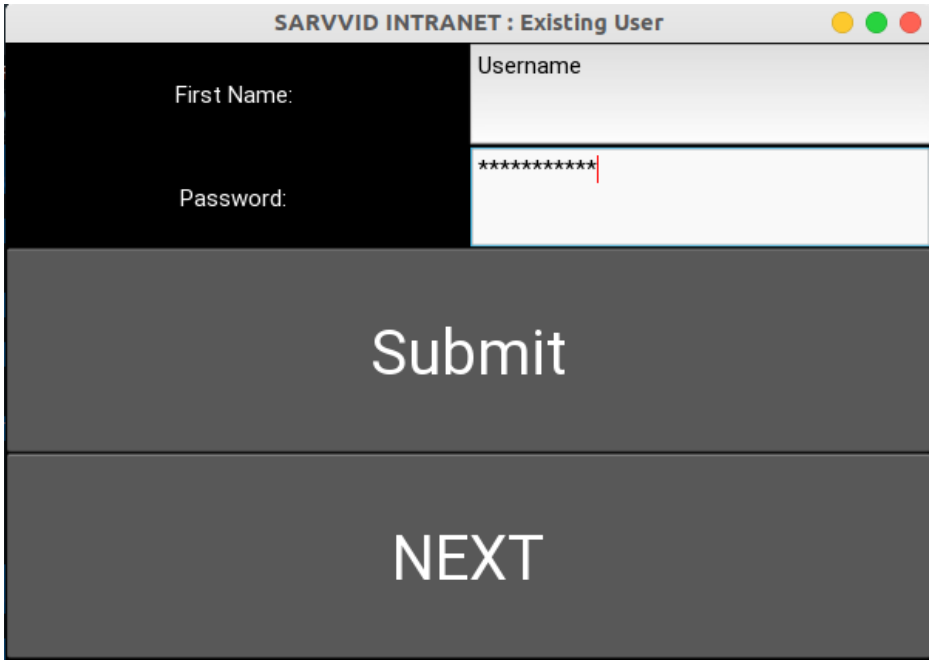




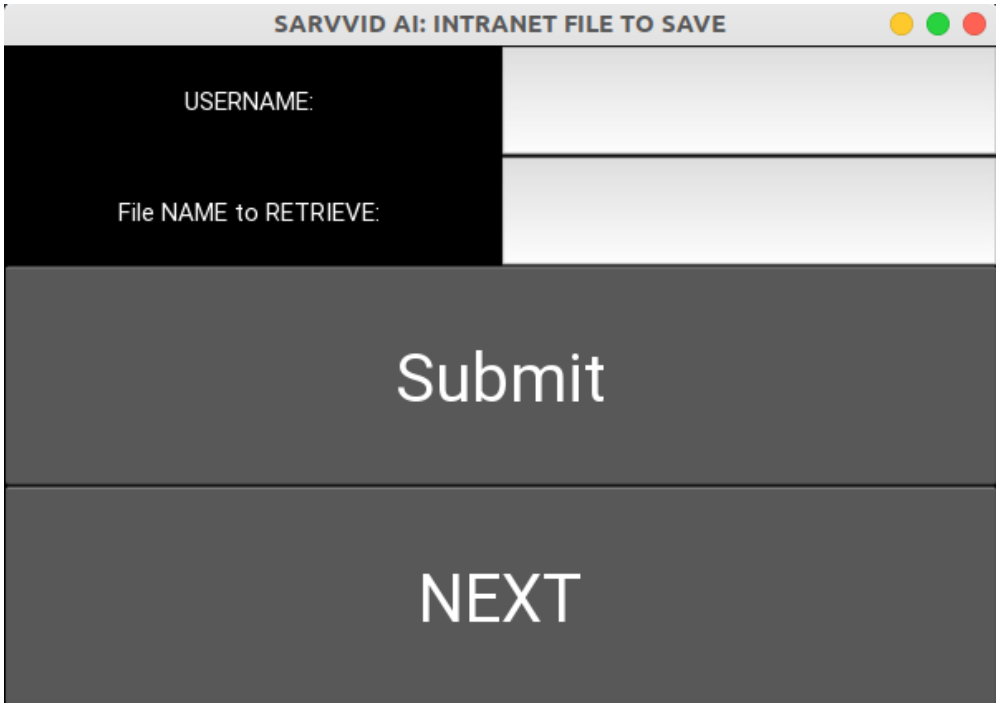

SARVVID INTRANET : New User Registration
First Name:
Username
Last Name:
Userlastname
Password:
Submit
NEXT

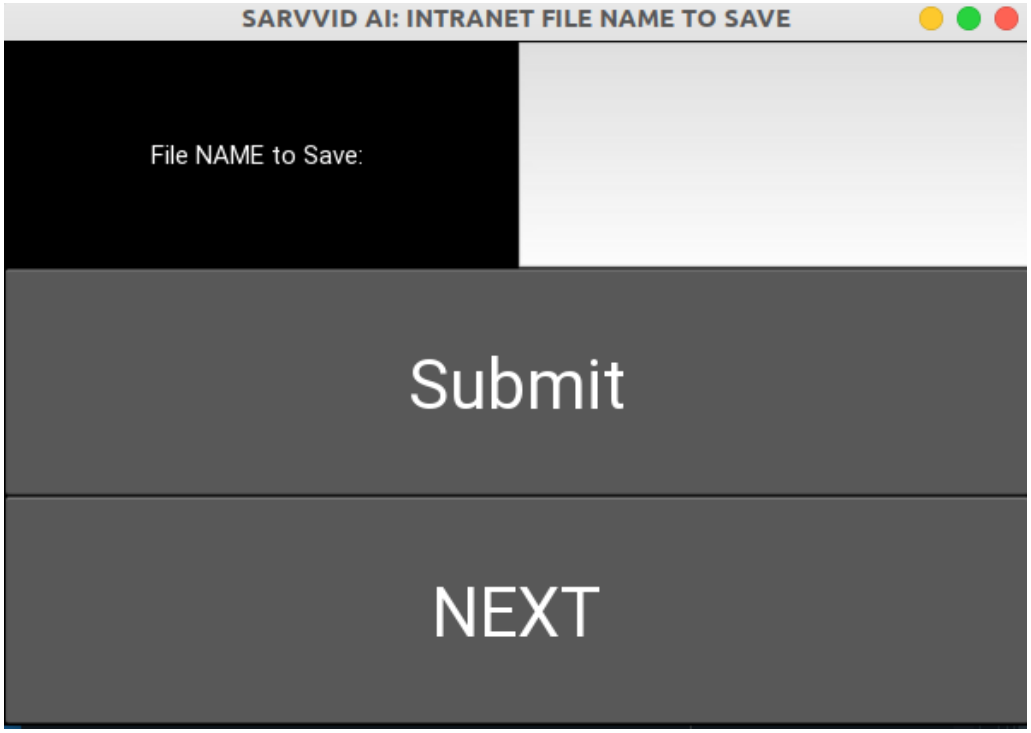

SARVVID INTRANET : UPLOAD ADDIP
UPLOAD
ADD IP
NEXT

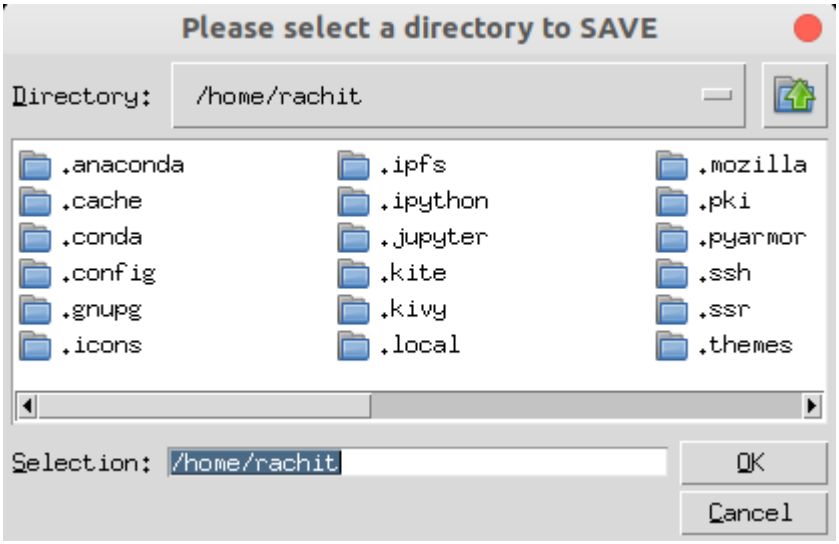

SARVVID INTRANET : FILE SELECTION
open
Name
Size
bin
boot
cdrom
dev
etc
home
lib
lib32
lib64
libx32
lost+found
media
mnt
opt
proc

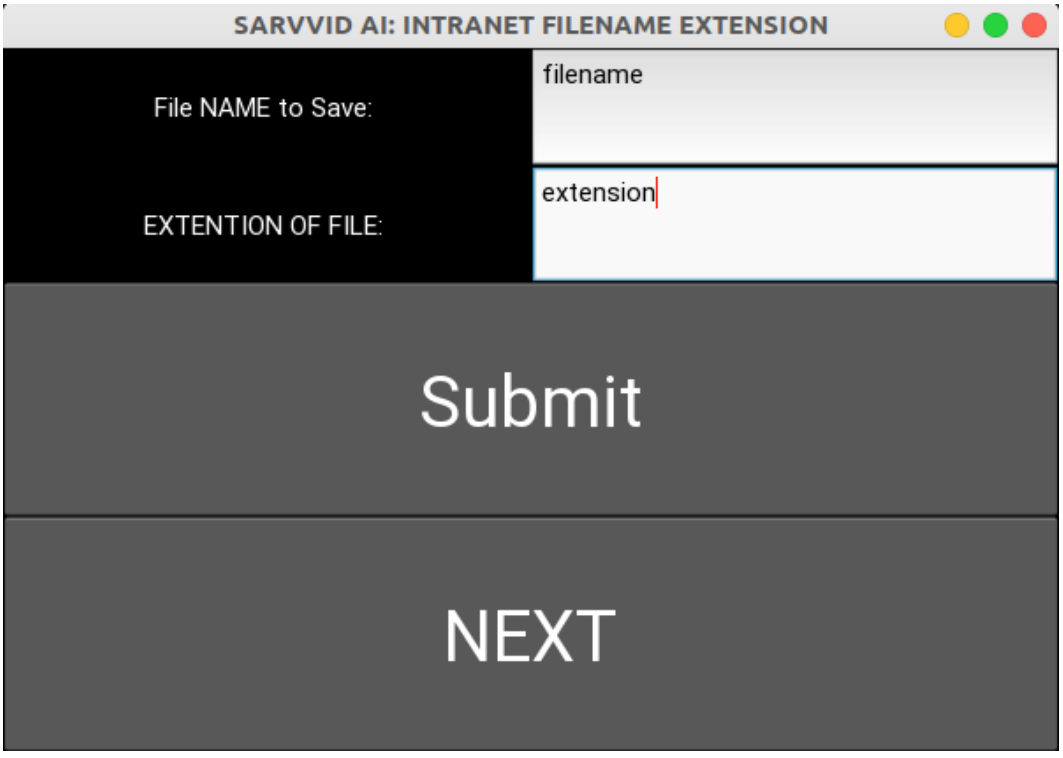

SARVVID INTRANET : Existing User
First Name:
Username
Password:
****
Submit
NEXT

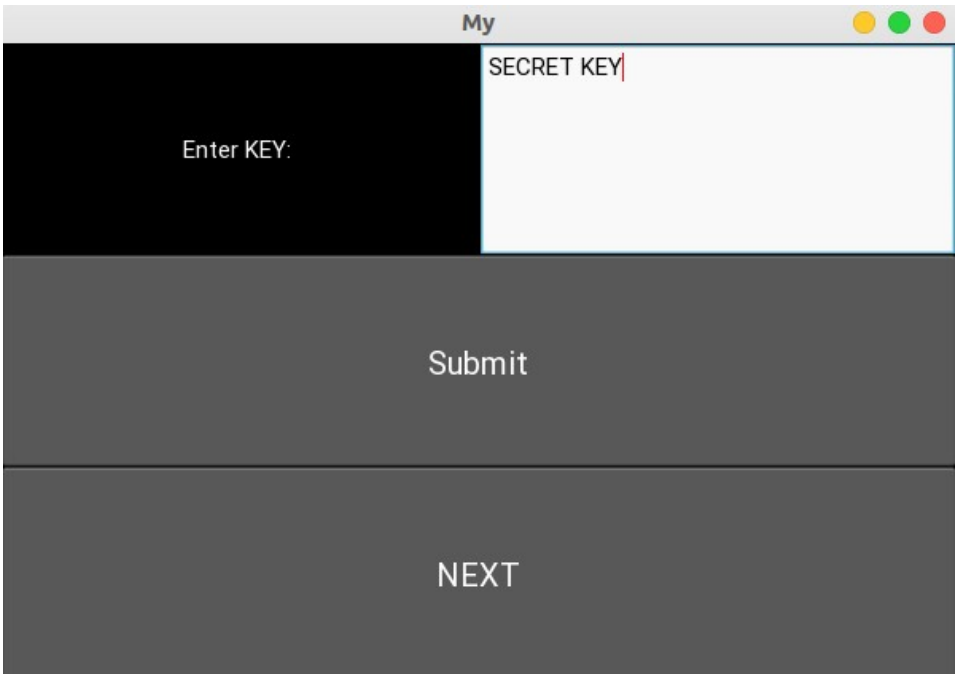

SARVVID INTRANET : UPLOAD or RETRIEVE FILE
UPLOAD
RETRIEVE
ADD IP
NEXT

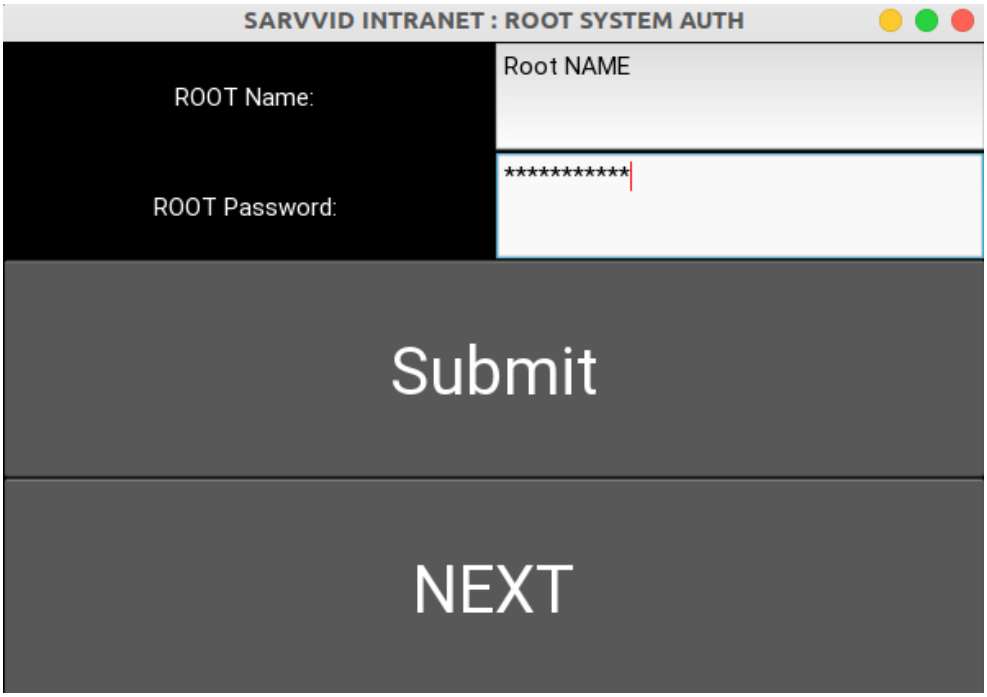

SARVVID AI: INTRANET FILE TO SAVE
USERNAME:
File NAME to RETRIEVE:
Submit
NEXT

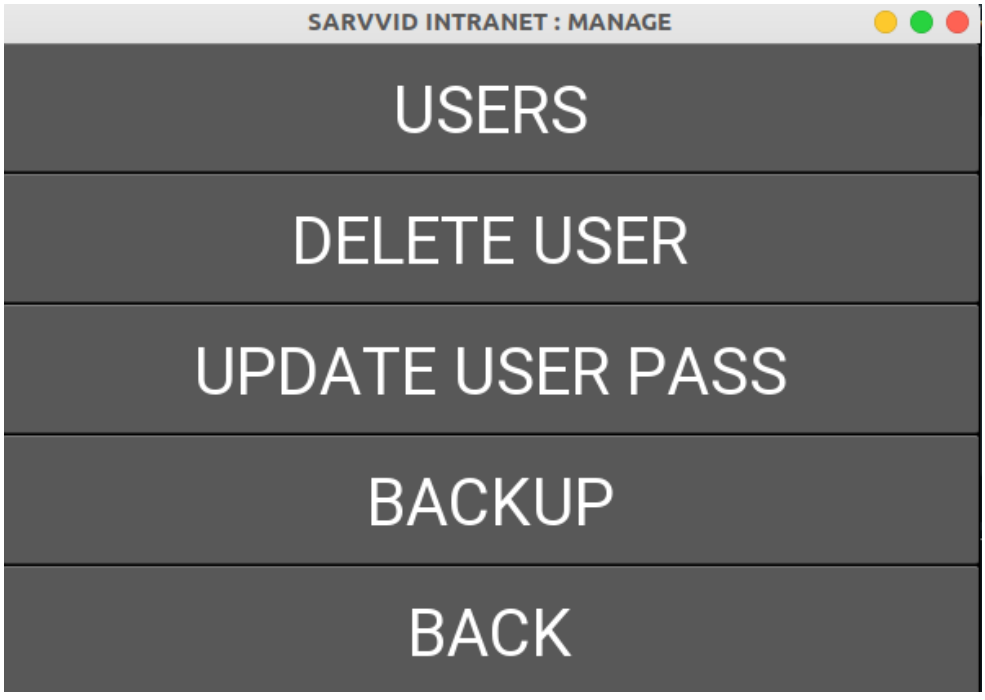

SARVVID AI: INTRANET FILE NAME TO SAVE
File NAME to Save:
Submit
NEXT

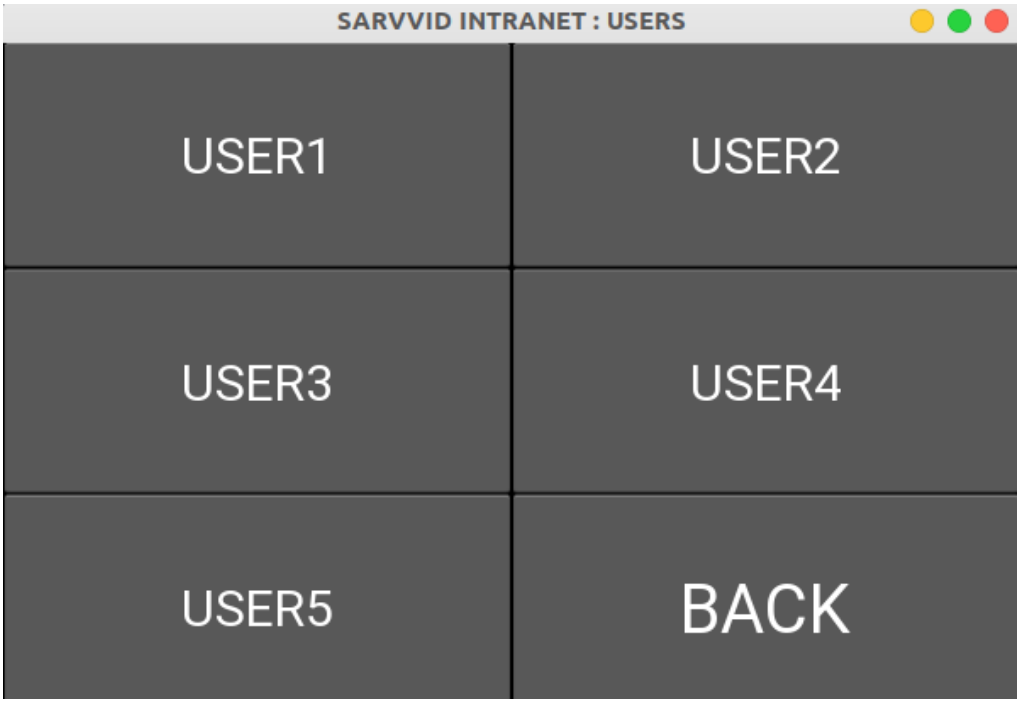

Please select a directory to SAVE
Directory:
/home/rachit
.anaconda
.cache
.conda
.config
.gnupg
.icons
.ipfs
.ipython
.jupyter
.kite
.kivy
.local
.mozilla
.pki
.pyarmor
.ssh
.ssr
.themes
Selection:
/home/rachit
OK
Cancel

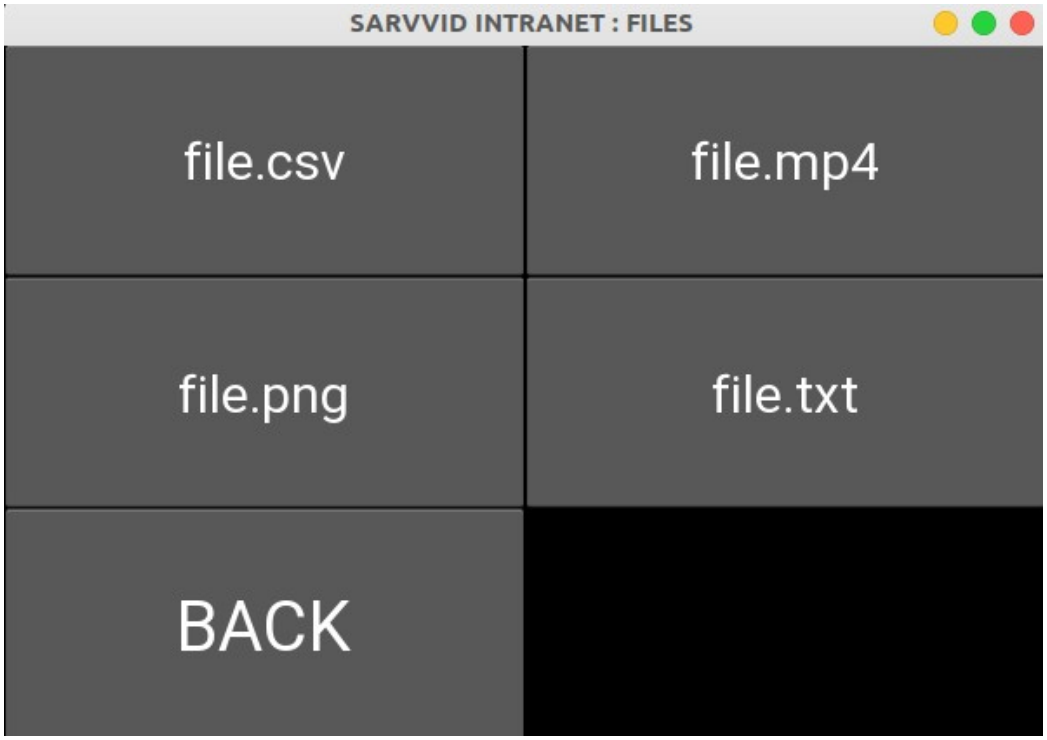

SARVVID AI: INTRANET FILENAME EXTENSION
File NAME to Save:
filename
EXTENTION OF FILE:
extension
Submit
NEXT

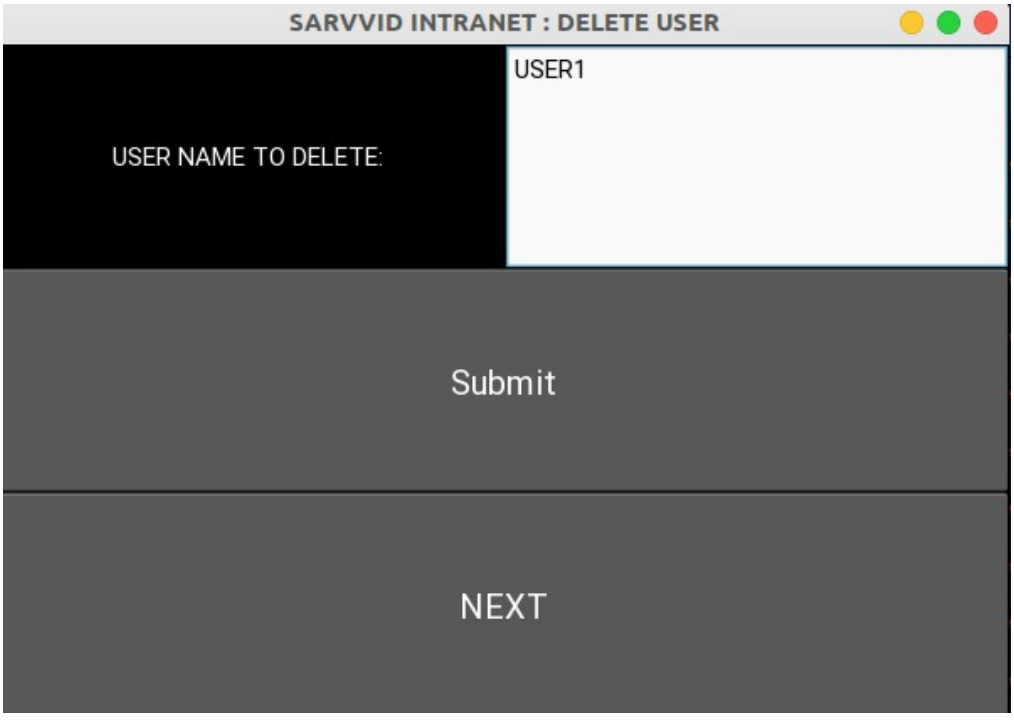

My
Enter KEY:
SECRET KEY
Submit
NEXT


SARVVID INTRANET : ROOT SYSTEM AUTH
ROOT Name:
Root NAME
ROOT Password:
****
Submit
NEXT


SARVVID INTRANET : MANAGE
USERS
DELETE USER
UPDATE USER PASS
BACKUP
BACK


SARVVID INTRANET : USERS
USER1
USER2
USER3
USER4
USER5
BACK


SARVVID INTRANET : FILES
file.csv
file.mp4
file.png
file.txt
BACK


SARVVID INTRANET : DELETE USER
USER NAME TO DELETE:
USER1
Submit
NEXT