

UNIT TESTING REPORT

- We are using CUnit for testing user authentication and validity of loading details from user.txt
- We have made various header files along with .c and main file. At the end we are using MakeFile to compile and run the program.

CUnit Testcases for checking an IP is in Blacklist:

- **3 Sunny testcases** (Valid input files) and **3 rainy testcases** (Invalid input files)

```
//sunny - valid input strings are passed to the checkvalidity function and checked if 1 is returned or not.
void test_SunnyCases(void) // Sunny Testcases
{
    char *str1 = "127.0.0.20";
    char *str2 = "127.34.213.1";
    char *str3 = "127.0.0.100";
    CU_ASSERT(check_BlackList(str1) == 0);
    CU_ASSERT(check_BlackList(str2) == 0);
    CU_ASSERT(check_BlackList(str3) == 0);
}
```

```
//rainy - invalid input strings are passed to the checkvalidity function and checked if 0 is returned or not.
void test_RainyCases(void) // Rainy Testcases
{
    char *str4 = "12.204.255.255";
    char *str5 = "127.0.0.10";
    char *str6 = "127.0.0.1606";
    CU_ASSERT(check_BlackList(str4) == 1);
    CU_ASSERT(check_BlackList(str5) == 1);
    CU_ASSERT(check_BlackList(str6) == 1);
}
```

CUnit Testcases for authentication:

- **3 Sunny testcases** (Valid input files) and **3 rainy testcases** (Invalid input files)

```
void test_SunnyCases_auth(void) // Sunny Testcases
{
    char *user1 = "gokul";
    char *pass1 = "123";
    char *user2 = "harshith";
    char *pass2 = "123";
    char *user3 = "awsads";
    char *pass3 = "123";
    CU_ASSERT(strcmp(authenticate(user1, pass1), "Authenticated") == 0);
    CU_ASSERT(strcmp(authenticate(user2, pass2), "Authenticated") == 0);
    CU_ASSERT(strcmp(authenticate(user3, pass3), "Authenticated") == 0);
}

void test_RainyCases_auth(void) // Rainy Testcases
{
    char *user1 = "gokul";
    char *pass1 = "12";
    char *user2 = "harshith";
    char *pass2 = "23";
    char *user3 = "sandeep";
    char *pass3 = "13";
    CU_ASSERT(strcmp(authenticate(user1, pass1), "Not Authenticated") == 0);
    CU_ASSERT(strcmp(authenticate(user2, pass2), "Not Authenticated") == 0);
    CU_ASSERT(strcmp(authenticate(user3, pass3), "Not Authenticated") == 0);
}
```

CUnit Report for check blacklist and authenticate functionality:

```
CUnit - A unit testing framework for C - Version 2.1-3
http://cunit.sourceforge.net/
```

```
Suite: Testing_Suite1
```

```
Test: Testing Sunny Cases ...
```

```
passed
```

```
Test: Testing Rainy Cases ...
```

```
passed
```

```
Test: Testing Sunny of authenticate Cases ...passed
```

```
Test: Testing Rainy of authenticate Cases ...passed
```

Run	Summary:	Type	Total	Ran	Passed	Failed	Inactive
		suites	1	1	n/a	0	0
		tests	4	4	4	0	0
		asserts	12	12	12	0	n/a

```
Elapsed time = 0.000 seconds
```

INTEGRATION TESTING REPORT

TestCase 1: Authenticated User Login

```
cg83-user26@instance-1:~/CGSprint2/CGSprint2/CUT/Code$ cd Client/Make/
cg83-user26@instance-1:~/CGSprint2/CGSprint2/CUT/Code/Client/Make$ make
gcc -o ../obj/client.o ../src/client.c -c
gcc -o ../bin/client.exe ../obj/client.o
../bin/client.exe
[+]Server socket created successfully.
[+]Connected to Server.
Please enter username:sushanth
Welcome sushanth Please enter password:123
Authenticated as: sushanth
Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
```

TestCase 2: Authenticated User pwd:

```
Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
4
/home/cg83-user26/CGSprint2/CGSprint2/CUT/Code/Server/var/ftp/sushanth

Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
```

TestCase 3: ls command

```
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
3
cli.txt
sushanth.txt

Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
```

TestCase 4: Download File from server:

```
Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
1
enter the file to download:sushanth.txt
Downloaded Successfully
File not available
Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
5
enter the file to read:
```

```
cg83-user26@instance-1: ~/CGSprint2/CGSprint2/CUT/Code/Client/data
cg03-user26@instance-1:~$ cd CGSprint2/CGSprint2/CUT/Code/Client/data/
cg83-user26@instance-1:~/CGSprint2/CGSprint2/CUT/Code/Client/data$ ls
client.txt  gk.TXT  hi.txt  new.TXT  sample.txt  upload.txt
cg03-user26@instance-1:~/CGSprint2/CGSprint2/CUT/Code/Client/data$ ls
client.txt  gk.TXT  hi.txt  new.TXT  sample.txt  sushanth.txt  upload.txt
cg83-user26@instance-1:~/CGSprint2/CGSprint2/CUT/Code/Client/data$
```

TestCase 5: Cat Command

```
enter the file to read:sushant.txt

Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
5
enter the file to read:sushanth.txt
Hi from sushanth my file file location is in var/ftp/sushanth

Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
```

Test Case 6: Upload file from client to users directory on server

```
Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
2
enter the file to upload:sample.txt
Uploaded Successfully

Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
█
```

TestCase 7: Quitting Server

```
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
2
enter the file to upload:sample.txt
Uploaded Successfully

Enter a choice:
1- download - get REMOTE FILE_NAME
2- upload - put LOCAL FILE_NAME
3- Browse REMOTE DIRECTORY
4- PWD
5- Read
6- Bye
6
Quittingcg83-user26@instance-1:~/CGSprint2/CGSprint2/CUT/Code/Client/Make$ █
```

TestCase 8: Anonymous user login

```
[+]Server socket created successfully.  
[+]Connected to Server.  
Please enter username:afhdj  
Authenticated as: Anonymous  
Enter a choice:  
1- download - get REMOTE FILE_NAME  
2- upload - put LOCAL FILE_NAME  
3- Browse REMOTE DIRECTORY  
4- PWD  
5- Read  
6- Bye
```

TestCase 9: Restricting download privilege for anonymous user

```
[+]Server socket created successfully.  
[+]Connected to Server.  
Please enter username:afhdj  
Authenticated as: Anonymous  
Enter a choice:  
1- download - get REMOTE FILE_NAME  
2- upload - put LOCAL FILE_NAME  
3- Browse REMOTE DIRECTORY  
4- PWD  
5- Read  
6- Bye  
1  
No Permission to execute
```

TestCase 10: directing anonymous user to public directory

```
Enter a choice:  
1- download - get REMOTE FILE_NAME  
2- upload - put LOCAL FILE_NAME  
3- Browse REMOTE DIRECTORY  
4- PWD  
5- Read  
6- Bye  
4  
/home/cg83-user26/CGSprint2/CGSprint2/CUT/Code/Server/var/ftp/pub
```