

# Capstone Users Manual

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## 1 Summary

Capstone is a file transfer server and client. The server is called capstone and the client is called capstone\_server.py. The former being a program written in the C programming language and the latter being a Python script.

This document will describe the following.

- Project compilation
- How to start the service
- How to connect
- How to interact with client
- Known issues

## 2 First steps

1. Installation

Run the following commands:

```
git clone https://gitlab.devforce.disa.mil/csd/exams/active/katenjerimiahv4a.git
cd katenjerimiahv4a
```

## 3 Project Compilation

1. Running Make

Run the following command:

```
make
```

## 4 Starting the service

### 1. Server basics

The following command will start the service with a home directory of `./test/server`, the default port of 26669 and the default timeout value of 600 seconds:

```
./bin/capstone -d ./test/server
```

For a full list of options and their descriptions, you can run:

```
./bin/capstone -h
```

## 5 How to connect

### 1. Starting the client

The following command will start the client in interactive mode and connect to the server with the built-in admin account:

```
./src/capstone_client.py admin password 0.0.0.0 26669
```

For a full list of options and their descriptions, you can run:

```
./src/capstone_client.py -h
```

## 6 Interacting with the client

### 1. Help

For a list of all commands and their descriptions, enter the following command:

```
HELP
```

### 2. The Basics

To find a file on the server you would like to retrieve, you can enter the following command:

```
LS
```

To retrieve a file from the server, you would enter the following command:

```
GET server_source_file.txt local_destination_file.txt
```

You can then verify the file has been retrieved by running the following command:

```
L_LS
```

The file, `local_destination_file.txt`, should appear in the listing.

To place a file on the server, enter the following command:

```
PUT local_source_file.txt server_destination_file.txt
```

You can then verify the file has been placed by running the following command:

LS

The file, server\_destination\_file.txt, should appear in the listing.

### 3. Creating Accounts

There are three authentication levels supported by the server:

- READ\_ONLY
  - Get files from the server.
  - List items on the server.
  - Create users with the permissions READ\_ONLY
- READ\_WRITE
  - Everything the previous level can.
  - Put files on the server.
  - Delete files from the server.
  - Create directories on the server.
  - Create users with the permissions READ\_WRITE
- ADMIN
  - Everything the previous two levels can.
  - Create users with the permissions ADMIN
  - Delete users

To create an account with the permissions READ\_WRITE, enter the following command:

```
CREATE_USER exampleusername examplepassword READ_WRITE
```

To delete an account, enter the following command:

```
DELETE_USER exampleusername
```