

## Demo application

The sample application for this guide is a variation on a classic login example: it is a command-line based authentication server written in Python. The application allows a user to do three things:

- Create an account with a valid password.
- Log in with a valid user name and password.
- Change the password of an existing account.

The application itself is in [sut/login.py](#) file and can be executed with a command `python sut/login.py`. Attempting to log in with a non-existent user account or with an invalid password results in the same error message:

```
> python sut/login.py login nobody P4ssw0rd
Access Denied
```

After creating a user account with valid password login succeeds:

```
> python sut/login.py create fred P4ssw0rd
SUCCESS
```

```
> python sut/login.py login fred P4ssw0rd
Logged In
```

There are two requirements that a password must fulfill to be valid: it must be between 7-12 characters long, and it must contain lower and upper case letters and numbers, but it must not contain special characters. Trying to create a user with invalid password fails:

```
> python sut/login.py create fred short
Creating user failed: Password must be 7-12 characters long
```

```
> python sut/login.py create fred invalid
Creating user failed: Password must be a combination of lowercase and
uppercase letters and numbers
```

Changing password with invalid credentials results in the same error message as logging in with invalid credentials. The validity of new password is verified and if not valid, an error message is given:

```
> python sut/login.py change-password fred wrong NewP4ss
Changing password failed: Access Denied
```

```
> python sut/login.py change-password fred P4ssw0rd short
Changing password failed: Password must be 7-12 characters long
```

```
> python sut/login.py change-password fred P4ssw0rd NewP4ss
SUCCESS
```

The application uses a simple database file to keep track on user statuses. The file is located in operating system dependent temporary directory.