

Project 1 Documentation

Commands

```
python3 auth.py AddUser user password
python3 auth.py Authenticate user password
python3 auth.py SetDomain user domain
python3 auth.py DomainInfo domain
python3 auth.py SetType object type
python3 auth.py TypeInfo type
python3 auth.py AddAccess operation domain type
python3 auth.py CanAccess operation user object
```

Test Cases (divided into sections for readability)

```
$ python3 auth.py
Error: Missing command
$ python3 auth.py command
Error: Invalid command
```

```
$ python3 auth.py AddUser
Error: Too few arguments
$ python3 auth.py Authenticate
Error: Too few arguments
$ python3 auth.py SetDomain
Error: Too few arguments
$ python3 auth.py DomainInfo
Error: Too few arguments
$ python3 auth.py SetType
Error: Too few arguments
$ python3 auth.py TypeInfo
Error: Too few arguments
$ python3 auth.py AddAccess
Error: Too few arguments
$ python3 auth.py CanAccess
Error: Too few arguments
```

```
$ python3 auth.py AddUser a b c
Error: Too many arguments
$ python3 auth.py Authenticate a b c
Error: Too many arguments
$ python3 auth.py SetDomain a b c
Error: Too many arguments
$ python3 auth.py DomainInfo a b
Error: Too many arguments
$ python3 auth.py SetType a b c
Error: Too many arguments
$ python3 auth.py TypeInfo a b
Error: Too many arguments
$ python3 auth.py AddAccess a b c d
Error: Too many arguments
$ python3 auth.py CanAccess a b c d
Error: Too many arguments
```

```
$ python3 auth.py AddUser "" password
Error: Invalid username
```

```
$ python3 auth.py Authenticate "" password
Error: Invalid username
```

```
$ python3 auth.py SetDomain "" domain
Error: Invalid username
$ python3 auth.py SetDomain user ""
Error: Invalid domain
```

```
$ python3 auth.py DomainInfo ""
Error: Invalid domain
```

```
$ python3 auth.py SetType "" type
Error: Invalid object
$ python3 auth.py SetType object ""
Error: Invalid type
```

```
$ python3 auth.py TypeInfo ""
Error: Invalid type
```

```
$ python3 auth.py AddAccess "" domain type
Error: Invalid operation
$ python3 auth.py AddAccess operation "" type
Error: Invalid domain
$ python3 auth.py AddAccess operation domain ""
Error: Invalid type
```

```
$ python3 auth.py CanAccess "" domain type
Error: Invalid operation
$ python3 auth.py CanAccess operation "" object
Error: Invalid username
$ python3 auth.py CanAccess operation user ""
Error: Invalid object
```

```
$ python3 auth.py Authenticate user0 password0
Error: User not found
$ python3 auth.py SetDomain user0 domain0
Error: User not found
```

```
$ python3 auth.py CanAccess operation0 user0 object0
Error: Operation not found
$ python3 auth.py DomainInfo domain0
$ python3 auth.py TypeInfo type0
$ python3 auth.py AddAccess operation0 domain0 type0
Success
$ python3 auth.py DomainInfo domain0
$ python3 auth.py TypeInfo type0
$ python3 auth.py AddAccess operation0 domain0 type0
Success
$ python3 auth.py DomainInfo domain0
$ python3 auth.py TypeInfo type0

$ python3 auth.py CanAccess operation0 user0 object0
Error: User not found
$ python3 auth.py AddUser user0 password0
Success
$ python3 auth.py AddUser user0 password0
Error: User already exists
$ python3 auth.py Authenticate user0 password0
Success
$ python3 auth.py Authenticate user0 password1
Error: Incorrect password

$ python3 auth.py CanAccess operation0 user0 object0
Error: Object not found
$ python3 auth.py SetType object0 type0
Success
$ python3 auth.py SetType object0 type0
Success
$ python3 auth.py TypeInfo type0
object0

$ python3 auth.py CanAccess operation0 user0 object0
Error: Access denied
$ python3 auth.py SetDomain user0 domain0
Success
$ python3 auth.py SetDomain user0 domain0
Success
$ python3 auth.py DomainInfo domain0
user0

$ python3 auth.py CanAccess operation0 user0 object0
Success
```

```
$ python3 auth.py AddUser user1 password1
Success
$ python3 auth.py AddUser user2 password2
Success
$ python3 auth.py AddUser user3 password3
Success
```

```
$ python3 auth.py SetDomain user1 domain0
Success
$ python3 auth.py SetDomain user2 domain1
Success
$ python3 auth.py SetDomain user3 domain1
Success
```

```
$ python3 auth.py DomainInfo domain0
user0
user1
$ python3 auth.py DomainInfo domain1
user2
user3
```

```
$ python3 auth.py SetType object1 type0
Success
$ python3 auth.py SetType object2 type1
Success
$ python3 auth.py SetType object3 type1
Success
```

```
$ python3 auth.py TypeInfo type0
object0
object1
$ python3 auth.py TypeInfo type1
object2
object3
```

```
$ python3 auth.py AddAccess operation1 domain1 type1
Success
```

```
$ python3 auth.py CanAccess operation0 user0 object0  
Success
```

```
$ python3 auth.py CanAccess operation0 user0 object1  
Success
```

```
$ python3 auth.py CanAccess operation0 user0 object2  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user0 object3  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user1 object0  
Success
```

```
$ python3 auth.py CanAccess operation0 user1 object1  
Success
```

```
$ python3 auth.py CanAccess operation0 user1 object2  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user1 object3  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user2 object0  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user2 object1  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user2 object2  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user2 object3  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user3 object0  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user3 object1  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user3 object2  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user3 object3  
Error: Access denied
```

```
$ python3 auth.py CanAccess operation1 user0 object0
Error: Access denied
$ python3 auth.py CanAccess operation1 user0 object1
Error: Access denied
$ python3 auth.py CanAccess operation1 user0 object2
Error: Access denied
$ python3 auth.py CanAccess operation1 user0 object3
Error: Access denied
```

```
$ python3 auth.py CanAccess operation1 user1 object0
Error: Access denied
$ python3 auth.py CanAccess operation1 user1 object1
Error: Access denied
$ python3 auth.py CanAccess operation1 user1 object2
Error: Access denied
$ python3 auth.py CanAccess operation1 user1 object3
Error: Access denied
```

```
$ python3 auth.py CanAccess operation1 user2 object0
Error: Access denied
$ python3 auth.py CanAccess operation1 user2 object1
Error: Access denied
$ python3 auth.py CanAccess operation1 user2 object2
Success
$ python3 auth.py CanAccess operation1 user2 object3
Success
```

```
$ python3 auth.py CanAccess operation1 user3 object0
Error: Access denied
$ python3 auth.py CanAccess operation1 user3 object1
Error: Access denied
$ python3 auth.py CanAccess operation1 user3 object2
Success
$ python3 auth.py CanAccess operation1 user3 object3
Success
```

```
$ python3 auth.py AddUser user4 password4
Success
```

```
$ python3 auth.py SetDomain user4 domain0
Success
```

```
$ python3 auth.py SetDomain user4 domain1
Success
```

```
$ python3 auth.py SetDomain user4 domain2
Success
```

```
$ python3 auth.py DomainInfo domain0
user0
user1
user4
```

```
$ python3 auth.py DomainInfo domain1
user2
user3
user4
```

```
$ python3 auth.py DomainInfo domain2
user4
```

```
$ python3 auth.py CanAccess operation0 user4 object0
Success
```

```
$ python3 auth.py CanAccess operation0 user4 object1
Success
```

```
$ python3 auth.py CanAccess operation0 user4 object2
Error: Access denied
```

```
$ python3 auth.py CanAccess operation0 user4 object3
Error: Access denied
```

```
$ python3 auth.py CanAccess operation1 user4 object0
Error: Access denied
```

```
$ python3 auth.py CanAccess operation1 user4 object1
Error: Access denied
```

```
$ python3 auth.py CanAccess operation1 user4 object2
Success
```

```
$ python3 auth.py CanAccess operation1 user4 object3
Success
```