



Chapter 2: Authorization and Encryption

Homework 2.1 : Create Users for Different Tasks

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The hard part of this lab is figuring out which role fits the needs of each user the best. Here are the correct roles for each user:

User	Role
userAdmin	userAdminAnyDatabase
sysAdmin	clusterManager
dbAdmin	dbAdminAnyDatabase
dataLoader	readWriteAnyDatabase

After we've figured out which role best fits each user we can set up our directory structure and generate our shared keyfile:

```
$ mkdir -p ~/M310-HW-2.1/{r0,r1,r2}
$ openssl rand -base64 755 > ~/M310-HW-2.1/keyfile
$ chmod 400 ~/M310-HW-2.1/keyfile
```

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We can then start each member in our replica set:

```
$ mongod --dbpath ~/M310-HW-2.1/r0 --logpath ~/M310-HW-2.1/r0/mongo.log --port 31210 \
--fork --auth --keyFile ~/M310-HW-2.1/keyfile --replSet HW-2.1
```

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```
$ mongod --dbpath ~/M310-HW-2.1/r1 --logpath ~/M310-HW-2.1/r1/mongo.log --port 31211 \
--fork --auth --keyFile ~/M310-HW-2.1/keyfile --replSet HW-2.1
$ mongod --dbpath ~/M310-HW-2.1/r2 --logpath ~/M310-HW-2.1/r2/mongo.log --port 31212 \
--fork --auth --keyFile ~/M310-HW-2.1/keyfile --replSet HW-2.1
```

From here we can go ahead and connect to the **mongod** running on port **32210**, initiate the replica set, and begin creating our users:

```
$ mongo --port 31210
use admin
rs.initiate()
db.createUser({user: "userAdmin", pwd: "badges", roles: [{
role:"userAdminAnyDatabase", db: "admin" }]])
db.auth('userAdmin', 'badges')
db.createUser({user: "sysAdmin", pwd: "cables", roles: [{
role:"clusterManager", db: "admin" }]])
db.createUser({user: "dbAdmin", pwd: "collections", roles: [{
role:"dbAdminAnyDatabase", db: "admin" }]])
db.createUser({user: "dataLoader", pwd: "dumpin", roles: [{
role:"readWriteAnyDatabase", db: "admin" }]])
```

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After you've created the **sysAdmin** user you can authenticate against them and add the other members.

```
$ mongo --port 31210
use admin
db.auth('sysAdmin', 'cables')
rs.add('database.m310.mongodb.university:31211')
rs.add('database.m310.mongodb.university:31212')
```

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Proceed to next section