

### \*\*\* Storing Binary Files \*\*\*

1. Make sure you have MongoDB Database Tools installed  
(<https://docs.mongodb.com/database-tools/installation/installation/>).
2. Make sure you have a local MongoDB instance running (see lab #2) or use the remote MongoDB Atlas instance (see lab #1).

3. Download some sample video files  
<https://test-videos.co.uk/bigbuckbunny/mp4-h264>

4. Use mongofiles tool to inspect the GridFS store

Syntax: mongofiles <options> <connection-string> <file>

> mongofiles --db=test

mongodb://mongoadmin:secret@localhost:27888/?authSource=admin list

5. Upload a small file then a larger file to GridFS

> mongofiles --db=test

mongodb://mongoadmin:secret@localhost:27888/?authSource=admin put

Big\_Buck\_Bunny\_1080\_10s\_1MB.mp4

> mongofiles --db=test

mongodb://mongoadmin:secret@localhost:27888/?authSource=admin put

Big\_Buck\_Bunny\_1080\_10s\_30MB.mp4

```
PS C:\Program Files\MongoDB\Server\7.0\bin> mongofiles --db=test mongodb://127.0.0.1:27017 put C:\Users\razva\Documents\Master_Poli\Baze_date\Big_Buck_Bunny_1080_10s_1MB.mp4
2024-05-19T00:47:26.752+0300    connected to: mongodb://127.0.0.1:27017
2024-05-19T00:47:26.753+0300    adding gridFile: C:\Users\razva\Documents\Master_Poli\Baze_date\Big_Buck_Bunny_1080_10s_1MB.mp4
2024-05-19T00:47:26.820+0300    added gridFile: C:\Users\razva\Documents\Master_Poli\Baze_date\Big_Buck_Bunny_1080_10s_1MB.mp4

PS C:\Program Files\MongoDB\Server\7.0\bin> mongofiles --db=test mongodb://127.0.0.1:27017 put C:\Users\razva\Documents\Master_Poli\Baze_date\Big_Buck_Bunny_1080_10s_30MB.mp4
2024-05-19T00:47:53.954+0300    connected to: mongodb://127.0.0.1:27017
2024-05-19T00:47:53.955+0300    adding gridFile: C:\Users\razva\Documents\Master_Poli\Baze_date\Big_Buck_Bunny_1080_10s_30MB.mp4
2024-05-19T00:47:54.169+0300    added gridFile: C:\Users\razva\Documents\Master_Poli\Baze_date\Big_Buck_Bunny_1080_10s_30MB.mp4

PS C:\Program Files\MongoDB\Server\7.0\bin>
```

6. Connect to MongoDB using shell

> mongosh mongodb://mongoadmin:secret@localhost:27888/?authSource=admin

7. See how GridFS stores binary files

See the collections in which the files are stored

> db.getCollectionNames()

```
[ { _id: '500072', pop: '1000' } ]
test> db.getCollectionNames()
[ 'fs.files', 'zips', 'fs.chunks' ]
test>
```

See the files that are stored in GridFS

> db.fs.files.find().pretty()

```
test> db.fs.files.find().pretty()
[
  {
    _id: ObjectId("664921eecd2c482d2a24736e"),
    length: Long("1046987"),
    chunkSize: 261120,
    uploadDate: ISODate("2024-05-18T21:47:26.819Z"),
    filename: 'C:\\Users\\razva\\Documents\\Master_Poli\\Baze_date\\Big_Buck_Bunny_1080_10s_1MB.mp4',
    metadata: {}
  },
  {
    _id: ObjectId("664922091dbd6427f30be93a"),
    length: Long("30704510"),
    chunkSize: 261120,
    uploadDate: ISODate("2024-05-18T21:47:54.166Z"),
    filename: 'C:\\Users\\razva\\Documents\\Master_Poli\\Baze_date\\Big_Buck_Bunny_1080_10s_30MB.mp4',
    metadata: {}
  }
]
test>
```

Optionally, see the file chunks (it's going to be ugly)

> db.fs.chunks.find()

```
6ePeJhcq1pnrZRNfemH66qM4C5BLiY30R5ATW1j9N3IGACgDm1507i0F0Hw6VJx8t2w0PxyY0m1Fswgd7yy6JuxSGFBU426LynDgZm139GRQUC7g7q92eM9940xVRN13
zjh9/trWiuBr+9RLqgHM3sdhLIfa1jJb9+PvD023r7kDE9AScysNAiUFQhkvGhq1v8Mcj5YhxzbPGVaZPu+ziBtEpkyEN/g7P7s8LsfJ2w40o3TyXmU/WHA55JkFkDdk3Ew
UjgC6VCZrNcJpJXW/iUbgONB2diNZoAi1/R0ePxSDLWfQ70g7bh+q1/XDGRHzKcVfGyWryrUf0smQcFshraRM0+RuOvW6Hux99eNvxP2hYk9C2MU7E+sGcS8b6Z8HmqF
NhsnkV3A3jrStKMRmTsPMzZew3vIcJvsm5jR3kGPj7uv7iHfBdU4i1SR3sCbxHTxvcnmkwi+iHpaFINLMYUoJXw4qGK6EMvG7Sxd59E5Zu0ThaI/RvkUNLSR9jTmi1nTk46L
qV/8p8qZQ7QIP4Q6baJo8WcDGetprZMAP880q3ktD2g8CGoYcm9nbmG4NiLpaFLxdk3KxdIVDqFFxbiNcpnHG6D68+RMFJE+Su3lb7f6WkuY1rGtE59wShQbc164M4GeN4C3
UnjxA9N4av/IzXWbnpxY+4D4mduhEphSndRXDyrP5oN0ZpW5X8eMhVjX4XbM55Rm3fAedzns05oJ85JheqzT/Ai4cxkyLrrrHRIR3B8MzA3xTnF1t8LTeMUTz6WF1UEdZ
iTZpS47F0/yLm1WndpcvNZ2Mk4V6BHI2h5A5GwzTtd0mmJyVx5F82Y+A250i5pyPH+8q7cbU9kJcdP0F9E27vJi+kQ19kjtnZKcBf1Y/Q01/UdHwZK8t57XUOH1quTFzEnX
MSWZ1Y376jkCrKHo1UHI9LZpTq7HLZi0Z/IB+Aqpb1WcKeA4W0q9wif8T0DY8/IZgTStnXNXLvXcQHFFPk7FGUtbnoAqntj1/+dRs0zLqiUz+teLnJZTmTkCfWaqeLrv
ByghumOHUcZepwv/yjQua1znzRGVXGrLp9q7LU92TPH7DHH3feQYJ+7JH7dI0KpfsadZ6kuIdJgmsbApkIqcXDX+IUWLCe90yUfq8d8kktQC0nwTyTs9J7Jz+1afdyaxYc
YzymYmQEOgS3n97wzXAFliTvo37hTbMYCQLv7Gj0mB2kWVA4ZLIWNI86A7WYIUGt9fCUTnNHXf/zKSMfyG+QCe6Im5BvcL77Urd/peBXsQNeZiWo7nFWQ0G8iuQw0s183W
Dp0TYrYYoi40PXR0NR0ZitImUfgLpm/XRvr0keVVRQ3nkhD9zAT8qrPDAke0mF1HOD3jWq507miV0DhxA5xDTViIherBYioWqf3cqrvtg5LLQII6+ii4qcB7maSWYQoQn
g0juu+M1s78WiyjUq4TAh55ZyShzu+dR/ZK/jiG+wQI0V1Pe5gchU/YSNhHsswJ5VjheK2auIFCGxSaEgyCcaq6+ZPJRm1cksy5f5btvGB9Wj/hSfrDuKLZmeL8c2nehB7k
y0Uf6+HmDv/rFYWpyAMiLnwpw/SYrTASjIHk5fCtmB82ZuJQI+Y/25zOKj20K2Xnbn4W24khW+ZLNVXno2KLTyWs6Gfd0CF4erRkPzfZahLN5U1Uux8PCiz66aazsNiuVU
CK9VQ+TQtcdA7Wbw9i+ZocCR+sU8q/0tsYR8/K3soCdkuR0e7UTBRwJdZELGSU011htoDJoBtbIuopLA5KYgvn17DFiAXag0qf8ikdAiUSdAjDA60kTQlnObLmVrE8F7
8knQ348kBWmBtXT+c4Hgdj8Qb36acJE8FabCKHi0If3kt81YfL48QayZDFH3VXMJFs0A1XENT9NmyB1VBIYRLzIE9i1Ej/obTtkeB666E9EVfD83uwm0/bKgLHYDjpfEDD
mLEA9S7nf0sJLodCwZdTpE+X28E0Tyem90tMNq2J3Jg7FcPLz+EYHafeg/AhrXGLtHtF0BX24s2GMydJF8T1TdYK8JmoLsPzF2YSFZUsvmyPuj/bpnGk5Jv/Fsg8Yxe9gF+
r3YwKcN29kgTAP57V7hkgLZJZxllhiYvj2L83FSrVnNkTdF0pKMMvqquUQLs559T3JANc0Kw4+IUW4qJG4qPtXgWt8vLNsNQFN+ra830uYU14Ie7b5ApZ0b9jzcj0k7DQ9
7YSYF/2Bk5d5rhzKeN9HRGIPiXok20S8D+3x0Rk9Df44qt63b1oAr3hU8USR/yQYt5JNBLaqce8rAb31LobPGLjcv+0wG62AhrdQFbZHpkrCTSUPPOFDCbEQTh0aHQn
Ch6GmsQyJHJ6T4PJLfcBPABuLrWt1Ye5aQoSp1S/s0Bcoj4th1KgB7L8eg50c0Z5xd+dISLRgs01LmthnI8e47TaPmeVyLo+4y0sPhjHCpZgqdpVLcNh7SRGUVjqlbXc
vX3DfPgkcQ+VZL0ou3+MFBA257Q6kYUvArYKq6MRPTPACT0q8DRowT0v0e03ZlnagsmCLq2SYvRDZhKSbZG8SBK0zcVzvdokEX5EPXuEM+8UPvD5sTTLJNMnQhX5cC9fK
qCrPzF0xUOKTsUzDLz/OKrrse3Pmu+MxIe9oUWFiuFsuJftSox5p3ZIFQQAwaRkLQZvYHqPRho080z4EawMvxg2LV++L1C4/j8TjF2J5FED6A2oBEmvQTP0/zmSX",
  }
]
Type "it" for more
```

8. Use GridFS via the database driver (this example uses the Go programming language)

<https://www.mongodb.com/blog/post/quick-start-golang--mongodb--a-quick-look-at-gridfs>

> go run main.go Big\_Buck\_Bunny\_1080\_10s\_1MB.mp4

You may need to install the Go environment from <https://golang.org/dl/>

and then get the dependencies:

> go get go.mongodb.org/mongo-driver/mongo

> go get go.mongodb.org/mongo-driver/mongo/gridfs

NEXT:

We will improve the performance of our database using indexing.

Familiarize yourself with profiling (see reference docs at <https://docs.mongodb.com/manual/tutorial/manage-the-database-profiler/>) and indexing (see reference docs at <https://docs.mongodb.com/manual/indexes/>).