

Distributed Data Systems

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- **Installation and Launching**

<https://docs.mongodb.com/manual/tutorial/install-mongodb-on-os-x/>

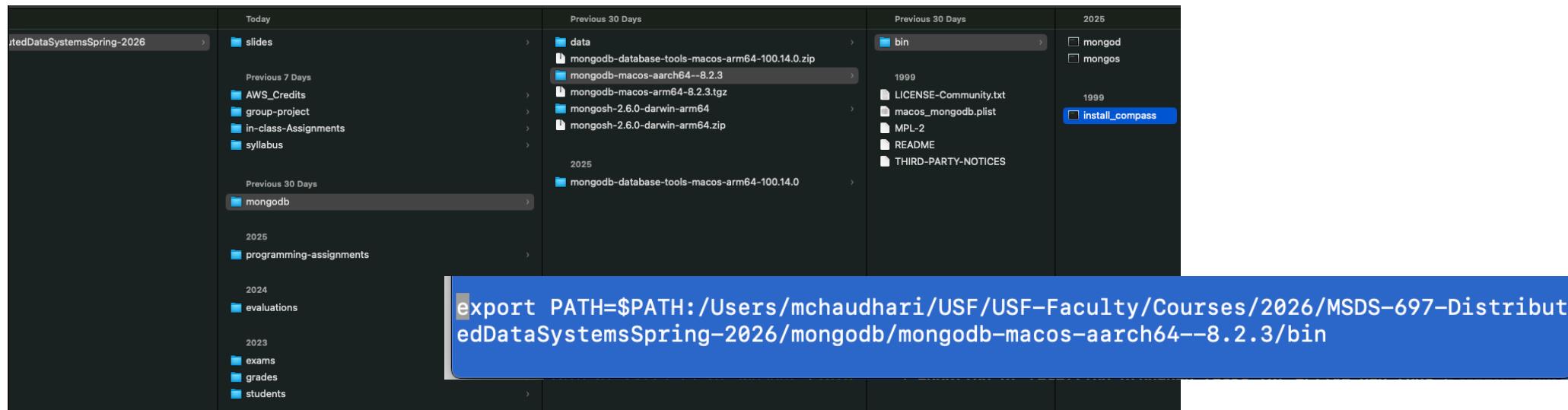
MongoDB

Install MongoDB (8.2.3) in your environment

<https://fastdl.mongodb.org/osx/mongodb-macos-arm64-8.2.3.tgz>

Download into a folder and unpack the tar file.

Add the bin folder path in your profile on Mac.



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MongoDB

Installation and Launching

- mongod
 - Primary daemon process for the MongoDB system.
- mongo
 - The mongo shell is an interactive JavaScript interface to mongod.

MongoDB

mongod will use data directory, create a data/db/

- Create data/db - `$mkdir data/db`

1. Start the **server** : Run mongod executable with dbpath.

- `mongod --dbpath=data/db`

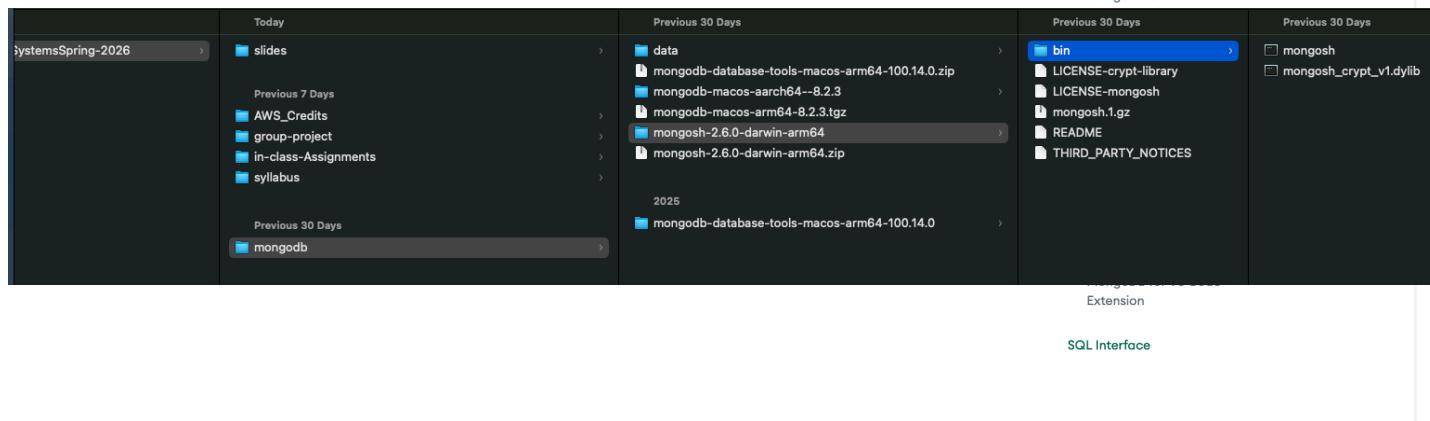
2. Stop mongod : `$Ctrl-C`

```
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % mkdir data/db
mkdir: data/db: File exists
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % pwd
/Users/mchaudhari/USF/USF-Faculty/Courses/2026/MSDS-697-DistributedDataSystemsSpring-2026/mongo
db
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % ls
data
mongodb-database-tools-macos-arm64-100.14.0
mongodb-database-tools-macos-arm64-100.14.0.zip
mongodb-macos-aarch64--8.2.3
mongodb-macos-arm64-8.2.3.tgz
mongosh-2.6.0-darwin-arm64
mongosh-2.6.0-darwin-arm64.zip
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % mongod --dbpath=data/db
{"t": {"$date": "2026-01-31T22:09:17.319-08:00"}, "s": "I", "c": "-", "id": 8991200, "ctx": "t
ime", "err": null, "ok": 1, "time": "2026-01-31T22:09:17.319-08:00", "t
imeNs": "2026-01-31T22:09:17.3191200/1000000000000000000", "t
imeStamp": 17016837573191200}
```

Mongosh - MongoDB Shell

Download the mongodb shell - mongosh

- <https://www.mongodb.com/try/download/shell>
- Download the zip file and unzip it to a folder.
- Go to that folder and run the binary file ./mongosh
- It should automatically connect to the mongod server



The screenshot shows a file explorer interface with a dark theme. The left sidebar lists several projects and files, including 'slides', 'AWS_Credits', 'group-project', 'in-class-Assessments', 'syllabus', and 'mongod'. The main area displays a file tree for 'mongod'. Under 'bin', there are files: 'LICENSE-crypt-library', 'LICENSE-mongosh', 'mongosh.1.gz', 'README', and 'THIRD_PARTY_NOTICES'. The 'mongosh' file is highlighted. The interface includes navigation buttons for 'Today', 'Previous 7 Days', 'Previous 30 Days', and '2025'. A 'SQL Interface' button is visible at the bottom right of the main area.

MongoDB Enterprise Advanced

MongoDB Community Edition

Tools

MongoDB Atlas Terraform Provider

MongoDB Shell

MongoDB Compass (GUI)

Atlas CLI

Atlas Kubernetes Operator

MongoDB CLI for Cloud



TOOLS

MongoDB Shell Download

MongoDB Shell is the quickest way to connect to (and work with) MongoDB. Easily query data, configure settings, and execute other actions with this modern, extensible command-line interface – replete with syntax highlighting, intelligent autocomplete, contextual help, and error messages.

Compatibility Note: Red Hat Enterprise Linux (RHEL) 7, Amazon Linux 2, SUSE Linux Enterprise Server (SLES) 12, and Ubuntu 18.04 support is deprecated and might be removed in a later mongosh release.

Note: MongoDB Shell is an open source (Apache 2.0), standalone product developed separately from the MongoDB Server.

Learn more

Version

2.6.0

Platform

MacOS M1 (11.0+)

Package

zip

[Download](#)

[Copy link](#)

More Options

MongoDB

Running MongoDB Shell

- **Terminal 1** : While your **mongod** server is on. (\$mongod --dbpath=db_path)
- **Terminal 2** : Run **mongosh** executable in another terminal (\$mongosh) - Optional

```
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % mkdir data/db
mkdir: data/db: File exists
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % pwd
/Users/mchaudhari/USF/USF-Faculty/Courses/2026/MSDS-697-DistributedDataSystemsSpring-2026/mongo
db
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % ls
data
mongodb-database-tools-macos-arm64-100.14.0
mongodb-database-tools-macos-arm64-100.14.0.zip
mongodb-macos-aarch64--8.2.3
mongodb-macos-arm64-8.2.3.tgz
mongosh-2.6.0-darwin-arm64
mongosh-2.6.0-darwin-arm64.zip
(dds-spring-2026) mchaudhari@ML-ITS-903658 mongodb % mongod --dbpath=data/db
{"t":{"$date":"2026-01-31T22:09:17.319-08:00"}, "s": "I", "c": "-", "id": 8991200, "ctx": "t
bserve", "msg": "Shuffling initial lines", "details": "File: /tmp/mongo-10100/11011"}
```

Terminal 1



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Terminal 2

```
(base) mchaudhari@ML-ITS-903658 mongosh-2.6.0-darwin-arm64 % cd bin
(base) mchaudhari@ML-ITS-903658 bin % ls
mongosh          mongosh_crypt_v1.dylib
(base) mchaudhari@ML-ITS-903658 bin % ls -al
total 538936
drwxr-xr-x@ 4 mchaudhari  ACCOUNTS\Domain Users      128 Jan 13 10:28 .
drwxr-xr-x@ 9 mchaudhari  ACCOUNTS\Domain Users      288 Jan 13 10:23 ..
-rwxr-xr-x@ 1 mchaudhari  ACCOUNTS\Domain Users  159585792 Jan 13 10:28 mongosh
-rwxr-xr-x@ 1 mchaudhari  ACCOUNTS\Domain Users  116343760 Jan 13 10:28 mongosh_crypt_v1.dylib
(base) mchaudhari@ML-ITS-903658 bin % ./mongosh
Current Mongosh Log ID: 6972875c9cc4b1243708ed7
Connecting to:      mongod://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2
.6.0
Using MongoDB:      8.2.3
Using Mongosh:      2.6.0
For mongosh info see: https://www.mongodb.com/docs/mongodb-shell/
-----
The server generated these startup warnings when booting
2026-01-22T11:55:47.249-08:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2026-01-22T11:55:47.249-08:00: This server is bound to localhost. Remote systems will be unable to connect to this server. Start the server with --bind_ip <address> to specify which IP addresses it should serve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning
2026-01-22T11:55:47.249-08:00: Soft rlimits for open file descriptors too low
-----
test> |
```

Mongodb Tools - command line tools

Download the MongoDB Database Tools

- <https://www.mongodb.com/try/download/database-tools>
 - Download the zip file and unzip it to a folder.
 - Go to that folder
 - Has tools to interact with MongoDB database

bin	bin	bin
Previous 30 Days	2025	2025
 data	 bin	<input type="checkbox"/> bsondump
 mongodb-database-tools-macos-arm64-100.14.0.zip	 LICENSE.md	<input type="checkbox"/> mongodump
 mongodb-macos-aarch64-8.2.3	 mongodb-database-tools-m...-arm64-100.14.0.tgz.cdx.json	<input type="checkbox"/> mongoexport
 mongodb-macos-arm64-8.2.3.tgz	 mongodb-database-tools-m...-arm64-100.14.0.tgz.sarif.json	<input type="checkbox"/> mongofiles
 mongosh-2.6.0-darwin-arm64	 README.md	<input type="checkbox"/> mongoimport
 mongosh-2.6.0-darwin-arm64.zip	 THIRD-PARTY-NOTICES	<input type="checkbox"/> mongorestore
2025		<input type="checkbox"/> mongostat
 mongodb-database-tools-macos-arm64-100.14.0		<input type="checkbox"/> mongotop

MongoDB Atlas

MongoDB Enterprise Advanced

MongoDB Community Edition

Tools

- MongoDB Atlas Terraform Provider
- MongoDB Shell
- MongoDB Compass (GUI)
- Atlas CLI
- Atlas Kubernetes Operator
- MongoDB CLI for Cloud Manager and Ops Manager
- Mongosync
- MongoDB Relational Migrator
- MongoDB Database Tools**
- MongoDB Connector for BI
- App Services CLI
- MongoDB for VS Code Extension
- [SQL Interface](#)



TOOLS

MongoDB Command Line Database Tools Download

The MongoDB Database Tools are a collection of command-line utilities for working with a MongoDB deployment. These tools release independently from the MongoDB Server schedule enabling you to receive more frequent updates and leverage new features as soon as they are available. See the [MongoDB Database Tools](#) documentation for more information.

Note: MongoDB Database Tools are distributed as open source (Apache 2.0), standalone products developed separately from the MongoDB Server.

Version	100.14.0
Platform	macOS arm64
Package	zip

[Download](#)  [Copy link](#) [More Options](#) 

MongoDB Compass - GUI Tool

Download the mongoDB Compass GUI -

- o <https://www.mongodb.com/try/download/compass>
- o Download the dmg file and copy it to your Applications.

MongoDB Atlas

MongoDB Enterprise Advanced

MongoDB Community Edition

Tools

MongoDB Shell

MongoDB Compass (GUI)

Atlas CLI

Atlas Kubernetes Operator

MongoDB CLI for Cloud
Manager and Ops Manager

MongoDB Cluster-to-Cluster
Sync

Relational Migrator

MongoDB Database Tools

MongoDB Connector for BI

App Services CLI

Atlas SQL Interface

Mobile & Edge

TOOLS

MongoDB Compass Download (GUI)

Easily explore and manipulate your database with Compass, the GUI for MongoDB. Intuitive and flexible, Compass provides detailed schema visualizations, real-time performance metrics, sophisticated querying abilities, and much more.

Please note that MongoDB Compass comes in three versions: a full version with all features, a read-only version without write or delete capabilities, and an isolated edition, whose sole network connection is to the MongoDB instance.

For more information, see our [documentation pages](#).

Compass

The full version of MongoDB Compass, with all features and capabilities.

Readonly Edition

This version is limited strictly to read operations, with all write and delete capabilities removed.

Isolated Edition

This version disables all network connections except the connection to the MongoDB instance.

Learn more

Version

1.41.0 (Stable)

Platform

macOS arm64 (M1) (11.0+)

Package

dmg

[Download](#)

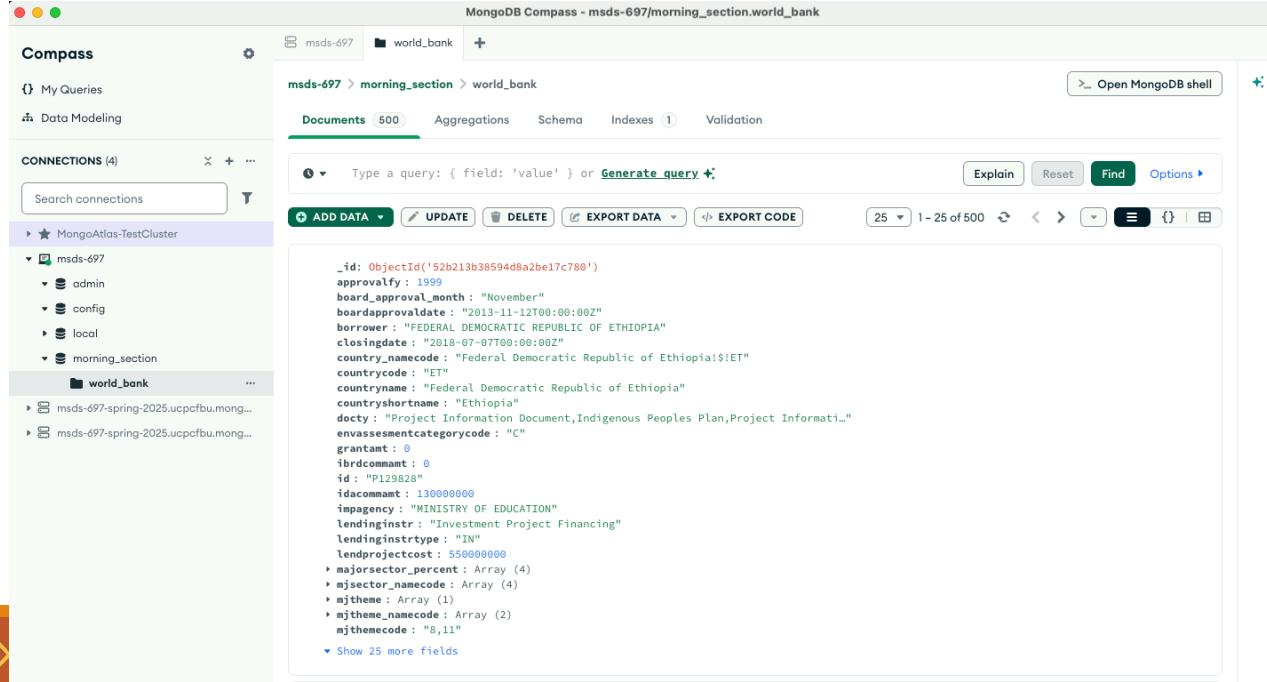
[Copy link](#)

More Options

MongoDB Compass

Running MongoDB Compass

- Open MongoDB Compass from your Applications
- It should display connect to the localhost mongodb server
- Import Data
- Build Queries
- Explore Database
- Manipulate DBs and Collections



The screenshot shows the MongoDB Compass application interface. On the left, the 'Connections' sidebar lists four connections: 'MongoAtlas-TestCluster' (selected), 'msds-697' (selected), 'admin', 'config', 'local', and 'morning_section'. Under 'morning_section', the 'world_bank' collection is selected. The main pane displays the 'Documents' tab with 500 results. A query input field at the top says 'Type a query: { field: 'value' } or Generate query'. Below the input are buttons for 'ADD DATA', 'UPDATE', 'DELETE', 'EXPORT DATA', and 'EXPORT CODE'. The results list shows a single document with the following fields and values:

```
_id: ObjectId('52b213b38594d8a2be17c780')
approvalfy: 1999
board_approval_month: "November"
boardapprovaldate: "2013-11-12T00:00:00Z"
borrower: "FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA"
closingdate: "2018-07-07T00:00:00Z"
country_namecode: "Federal Democratic Republic of Ethiopia!$ET"
countrycode: "ET"
countryname: "Federal Democratic Republic of Ethiopia"
countryshortname: "Ethiopia"
docty: "Project Information Document,Indigenous Peoples Plan,Project Informati..."
envasessmentcategorycode: "C"
grantamt: 0
ibrdcommamt: 0
id: "P129828"
idcommamt: 130000000
impagency: "MINISTRY OF EDUCATION"
lendinginstr: "Investment Project Financing"
lendinginstrtype: "IN"
lendprojectcost: 550000000
majorsector_percent: Array (4)
mjsector_namecode: Array (4)
mjtheme: Array (1)
mjtheme_namecode: Array (2)
mjthemedcode: "8,11"
Show 25 more fields
```

MongoDB and Visual Studio Code

It is possible to write queries and manage MongoDB from Visual Studio Code with appropriate extensions. You will have to figure it out yourself.