

MongoDB Orientation: This document includes Orientation assignments, as well as other setup information.

Sign up for MDB Atlas free-tier (if you already have one, you will only have to add new collections as required)

- While you are following their instructions, please, please, write down your Atlas username and password and your cluster username and password and save them somewhere easy to find.
- Signup link: <https://www.mongodb.com/cloud/atlas?imp=docs>
- Below is a fairly recent youtube video walking you through the process of signing up for a free-tier cluster.
 - <https://www.youtube.com/watch?v=1duX6Nfevhc>
(third-party informative video)
- And below is my video, where I'm doing the same thing as the above video, with the latest interface
Video: [1-MDB-Atlas-Cluster](#)

Install MongoDB locally on Windows (so that we can use the Mongo shell in the cmd/terminal) (Mac instructions are below the Windows instructions)

- Because MongoDB Compass (a graphical query and schema interface) does not support everything in mongo, so we'll install mongo locally and then we can also use the command line in mongo, e.g., for import and other things.
- Why the Enterprise version? Because we want to use Compass too. There are free alternatives for that. OR you can use a VM for this part.
- NOTE: The newest version of MongoDB as of this writing is 4.2.8. The Atlas Free-Tier is also providing you with a 4.2.8 instance. If this changes, and you want to make sure that your local version is fully compatible:
 - <https://www.mongodb.com/download-center/enterprise/releases/archive>
- I tested everything with 4.x and it worked fine.
- You can download the latest version for your OS [here](#) or [here](#). (The first link should work.)
 - For the first link, select your OS from the drop-down on the right of the page and download.
 - (For the second link, scroll down carefully and find the version for your OS.)
 - For Windows, use the MSI package.
 - In the installation dialogue box, there is a checkbox to install Compass. Check that box!! If you don't, you'll have to install Compass separately later.
 - Find the folder C:\Program Files\MongoDB\Server\4.x\bin
 - Add this to the path

- Control Panel → System → Advanced System Settings
→ Environment Variables (a button in the settings dialogue box)
 - → under System Variables (the bottom half), click on:
 - → Path → Edit → New
 - Enter the path, and click MoveUp until it's at the top of the path
 - Click OK.
- Close and reopen terminal
- Create a new folder:
 - mkdir c:\data\db (on Windows)

Install MongoDB locally on MacOS: download center-->Enterprise server tab.

- <https://docs.mongodb.com/manual/tutorial/install-mongodb-enterprise-on-os-x/>
 - Scroll down to step 1: "Download the tarball"
 - (Optionally continue down the page for full detailed instructions)
 - Click on "MongoDB Download Center"
 - Click on the green "Download" button
 - Navigate to your local folder where this was downloaded.
 - Double click on the .tgz file. This will unpack the file.
 - Good idea to put it into your home directory.
 - Also good idea to rename to something shorter. Ex: "mongodb-e"
 - Mongo is located in the bin folder
- Depending on the version of MacOS running, follow the next step accordingly. (To check the OS, go to the apple symbol in the top left and click on "About This Mac". There it will show macOS <name of OS>)
 - macOS Mojave (and older)
 - When in the home directory, update the path environment variable in a hidden file name ".bash_profile" (In your terminal, you can see hidden files using "ls -a" and you can see the ".bash_profile")
 - If you don't see one, create it, create a new file, save it as ".bash_profile" Be sure to save it in your home directory!!
 - To edit this file in the terminal (or create it for the first time) type in "nano .bash_profile".
 - You can add a line:
 - export PATH="/Users/<your username>/<your mongo path>/bin:\$PATH"
 - Click ^x (control + x) to exit the file, then click "y" to say yes to saving the file. If you did not provide a name when opening nano, it will prompt you for a name here.
 - Close and reopen terminal
 - Create the database folder:
 - sudo mkdir -p /data/db
 - macOS Catalina (and newer)
 - **Note: when you try to run any mongo commands in the terminal you may see a popup saying "<program name> cannot be opened because the developer cannot be verifier".**

- Click “cancel”.
- Open System Preferences and go to Security & Privacy.
 - Under the General tab and click the “Allow Anyway” button next to the statement with the same name of the program you are trying to run.
- Run program again. Another popup will show, but this time click “open” and the program will run.
- When in the home directory update the path environment variable in a hidden file name “.zshenv” (In your terminal, you can see hidden files using “ls -a” and you can see the “.zshenv”)
 - If you don't see one, create it, create a new file, save it as “.zshenv” Be sure to save it in your home directory!!
- To edit this file in the terminal (or create it for the first time) type in “nano .zshenv”
- You can add a line:
 - export PATH="/Users/<your username>/<your mongo path>/bin:\$PATH"
- Click ^x (control + x) to exit the file, then click “y” to say yes to saving the file. If you did not provide a name when opening nano, it will prompt you for a name here.
- Close and reopen terminal
- Create the database folder:
 - **Note: there is new security measures in place, so now the database folder cannot be at /data/db.**
 - You can choose where the database folder goes as long as it is not in the root / directory. You may simply follow these directions:
 - Go into the mongo folder, previously named “mongodb-e”
 - cd mongodb-e
 - Inside that folder type in:
 - mkdir -p ./data/db
 - **Note: when running mongo in the terminal, you must also specify the database path as an argument. If you followed the directions above you can run this when in the home directory:**
 - mongod --dbpath=./mongodb-e/data/db

Take screen shots as indicated below

- **Note: for Mac users on macOS Catalina and above, to run these commands below you *do not* need to specify the dbpath.**
- **Take a screen shot of the terminal after entering the following:**
 - **In the terminal/cmd window, type:**
 - **mongod --version**
 - **it should respond with the version**
 - **mongo --nodb**
 - **It should respond with the version and also open the mongo shell, giving you a “>” cursor**
 - **quit()**

Course Environment:

- Assume that Anaconda is already installed [Anaconda](#)
- Optionally, set up a new environment for the Mongo part of the course. (I am not for this course.)
 - [environment](#) (so as far as I'm concerned, this is optional)
- From inside Anaconda (or inside your specific environment within Anaconda): start jupyter notebook or, on windows:
 - Start-->Anaconda-->Jupyter
 - Runs on localhost:8888
- From inside Anaconda (or inside your specific environment within Anaconda):
 - `pip install pymongo dnspython`
 - (should work for the mac too)
 - FYI: [Support for mongodb+srv:// URIs requires dnspython: http://api.mongodb.com/python/current/installation.html](#)
 - if it doesn't work for the mac, try looking at this, but I think things should run okay.
 - <https://support.opendns.com/hc/en-us/articles/227987667-Installing-and-Using-dnspython-clientsubnetoption>
- On your Desktop (or wherever you want to store your Jupyter notebooks, you may want to create a folder named intro-to-mongodb, only if you want your folder to match the way my videos look. It's not necessary to do this.

This is the end of orientation assignments for Mongo.

Below is additional to complete before lab 1

I have included the following in the same document as the Orientation; while not required for orientation, they should be completed before Lab 1.

Load data into MongoDB:

- the [Mongo folder](#) (also found on the syllabus, in the Course Schedule, just above the MongoDB section).
- Unzip that folder into your intro-to-mongodb folder that you created above, or wherever you want to store it. The movies_initial.csv file is in that folder. That's the file that you want to import to your mongodb Atlas.
- While you're at it, also [download the Jupyter notebooks](#) (also found in the Course Schedule of the syllabus, just above the MongoDB section). Unzip that into your intro-to-mongodb folder.
- import: using mongoimport command [Video: 2 MDB-Import-Movies Intial](#)
 - Go to [MongoAtlas, sign in.](#) Your mflix cluster should be displayed. If not, click on clusters.
 - Click on the "...", command-line tools, and copy the mongoimport command-line template statement. Substitute values for the green placeholders.


Data Import and Export Tools

Replace **PASSWORD** with the password for the admin user, **DATABASE** with the name of the database you wish to import/export to your cluster, and **COLLECTION** with the name of the collection you wish to import/export to your cluster. Replace **FILETYPE** with `json` or `csv` to specify the file type. Where applicable, replace **FILENAME** with the location and name of the output file (for export) or data source (for import).

NOTE: When exporting or importing CSV data, an additional `--fields` flag is often required. See documentation for the specific tool for additional details.

`mongoimport`  imports content from an Extended JSON, CSV, or TSV export

```
mongoimport --host atlas-zs3jq1-shard-0/mflix-shard-00-00.ep7ax.mongodb.net:27017,mflix-shard-00-01.ep7ax.mongodb.net:27017,mflix-shard-00-02.ep7ax.mongodb.net:27017 --ssl --username cfn --password <PASSWORD> --authenticationDatabase admin --db <DATABASE> --collection <COLLECTION> --type <FILETYPE> --file <FILENAME>
```



- You may want to copy this into Word/Sublime/Notepad or similar and substitute your values. You will be using it again, so you may want to save it.
- I used the name of the cluster (mflix) and the Database name (mflix).
- I added `--headerline` and `--ssl`. However, the latest version on Atlas includes `--ssl`
- **Note: if you see an error: “error connecting to host: could not connect to server: server selection error: server selection timeout”, check on Atlas in the Network Security tab that the current IP address is on the IP whitelist. If it is not, add it to the IP Whitelist and run the import statement again.**
- *run the `mongoimport` command from the regular terminal, NOT from the mongo shell!*
- *In your terminal, be sure to navigate to the folder that has your data file (in this case `movies_initial.csv`)*

Using Compass:

- Like PHPMyAdmin, it's a locally-installed GUI tool that allows you to connect to a DB. Examine, update, delete and query.
- [Download Compass](#)
- [Video: 3-Install-Compass](#)
- Install Compass
- Go to Atlas-->cluster-->Connect-->Connect using Compass. (You can use Connect through an application too.)
- Copy that string, as shown in the video
- Back in Compass, paste the string into the dialogue box.
 - **Note: if you see an error about a timeout, check on Atlas in the Network Security tab that the current IP address is on the IP whitelist. If it is not, add it to the IP Whitelist and run the import statement again.**
- Create database “mflix” and collection name “mflix”
- Click into mflix
- Click “Add Data” and choose the file `movies_initial.csv`
- Click import

