mongodb
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Mongodb is a popular nosql server
MongoDB

https://www.mongodb.com/docs/manual/tutorial/install-mongodb-on-amazon/

To install:
a) set up yum repo
/etc/yum.repos.d/mongodb-org-7.0.repo file should contain
```
################################################
[mongodb-org-7.0]
name=MongoDB Repository
baseurl=https://repo.mongodb.org/yum/amazon/2023/mongodb-org/7.0/x86_64/
gpgcheck=1
enabled=1
gpgkey=https://pgp.mongodb.com/server-7.0.asc
################################################
```

b) mongodb runs a user mongod, systemctl start mongod
/var/lib/mongo is repository
/var/log/mongodb is logging directory

c) mongosh = mongo shell
test> use mydb // change to database
mydb> show collections // show collections

```
db.users.insertOne(['username'=>'triemer']);
db.users.find();
```

d) So install on amazon 2023 doesn't work for mongosh
> dnf remove mongodb-mongosh
> dnf install -qy mongodb-mongosh-shared-openssl3

e) For PHP, install mongodb extension
-- Install the mongodb extension to php
>pecl install mongodb
(I chose all the defaults)
> cd /usr/local/lib/php/extensions
mongodb built in subdir... copy up one level
>add extension=mongodb.so to php.ini (/usr/local/lib/php.ini)

-- now install php library
in your php project where composer.json is
composer require mongodb/mongodb

f) basic code to initiate mongodb from php
From: https://www.mongodb.com/docs/php-library/current/tutorial/crud/

```
<?php
  require_once "lib/vendor/autoload.php";
  $serverApi = new ServerApi(ServerApi::V1);
  $client = new MongoDB\Client('mongodb://127.0.0.1',[],['serverApi'=>$serverApi]);
```

CRUD operations:
define the collection:
$collection = $client->test->users (creates a users table in test database)
// CREATE
$result =$client->insertOne(['username'=>'admin',email=>admin@fubar.com']);
Get Count: echo $result->getInsertedCount();
Get Inserted Id: echo $result->getInsertedId();

```
$result = $client->insertMany(
     ['username'=>'admin','email'=>'admin@fubar.com'],
   ['username'=>'tom','email'=>'tom@fubar.com']
   );
```
Get Count: echo $result->getInsertedCount();
Get Inserted Ids: echo $result->getInsertedIds();

// SERACH

```
  $cursor = $collection->find(['username'=>'admin',
        'last_name'=> MongoDB\BSON\Regex('^garden', 'i')
      ],$options);
  // Mix and match options
     $options = ['projection'=>
                  ['username'=>1,
              'first_name'=>1,
              'last_name'=>1],
           'limit'=>4,
           'sort'=>['pop' => -1],
           'sort'=>
           ];


   Update
   ------
   $result = $collection->updateOne(
    ['name'=>'Tom']
    ['$set'=>['address'=>'123 test way']]
    );
    $count = $result->getMatchedCount();
    $modified = $result->getModifiedCount();

   $result = $colletion->updateMany(
          ['state'=>'ny'],
       ['$set'=>['country'=>'us']]);
   ** Updated only updates the fields mentioned **

   Replace
   -------
   $result = $collection->replaceOne(
        ['name'=>'Tom'],    // filter
    ['username'=>'thomas',  // new document
     'last_name'=>'myname']);
    $count = $result->getMatchedCount();
    $modified = $result->getModifiedCount();

  /* This replaces all fields */

  Upsert
  ------

    $updateResult = $collection->updateOne(
    ['name' => 'Bob'],
    ['$set' => ['state' => 'ny']],
    ['upsert' => true]
);
    ** updates the table if exists, creates if not */

  Delete
  ------
  $collection->deleteOne(['name'=>'bob']);
  $collection->deleteMany(['name'=>'tom']);


  Indexes
  $collection->createIndex(['name'=>1]);
  foreach ($collection->listIndexes() as $indexInfo) {
        var_dump($indexInfo);
  }
  $collection->dropIndex();
  $collection->dropIndexes(); // drops all indexes on collection

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installation on rhel 8.9
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https://linuxconfig.org/how-to-install-mongodb-on-redhat-8

Then follow commands above to install pecl and library

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Enable authentiction
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1. create an admin user
   use admin
```

```
  createUser( { user:"myUserAdmin", pwd:"mypath",
    roles: [ { role: "userAdminAnyDatabase", db: "admin" } ]
    });

2. configure /etc/mongod.conf
  Security:
   authorization:enabled

3. now create user in the database
  user admin
  db.auth("myUserAdmin","mypath")

  use mydb
  createUser( { user:"fancyuser", pwd:"mypass",
        roles: [ { role: "readWrite", db:"mydb"}]
     })

4. in php configure the url for the collection connection
  $collection = new MongoDB\Client('mongodb://fancyuser:mypass@127.0.0.1/mydb');
  e.g. mongodb://user:password@127.0.0.1/database

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Creating a database
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Bit weird here...
1. authorize with myUserAdmin
 > use admin
 > db.auth("myUserAdmin","mypath")
 > use newdb
 >    createUser( { user:"fancyuser", pwd:"mypass",
        roles: [ { role: "readWrite", db:"newdb"}]
     })

2. the database will not show up in user databases
  until something is written to it.

3. BUT the authorization works.
```