Set up localhost on macOS High Sierra (Apache, MySQL, and PHP 7) with SSL/HTTPS

Sep 20, 2017   ☰ Table of Contents

Turn on Apache

1. Open Terminal by clicking on the magnifying glass at the top right corner of your screen and searching for Terminal

2. Type `sudo apachectl start` and press enter

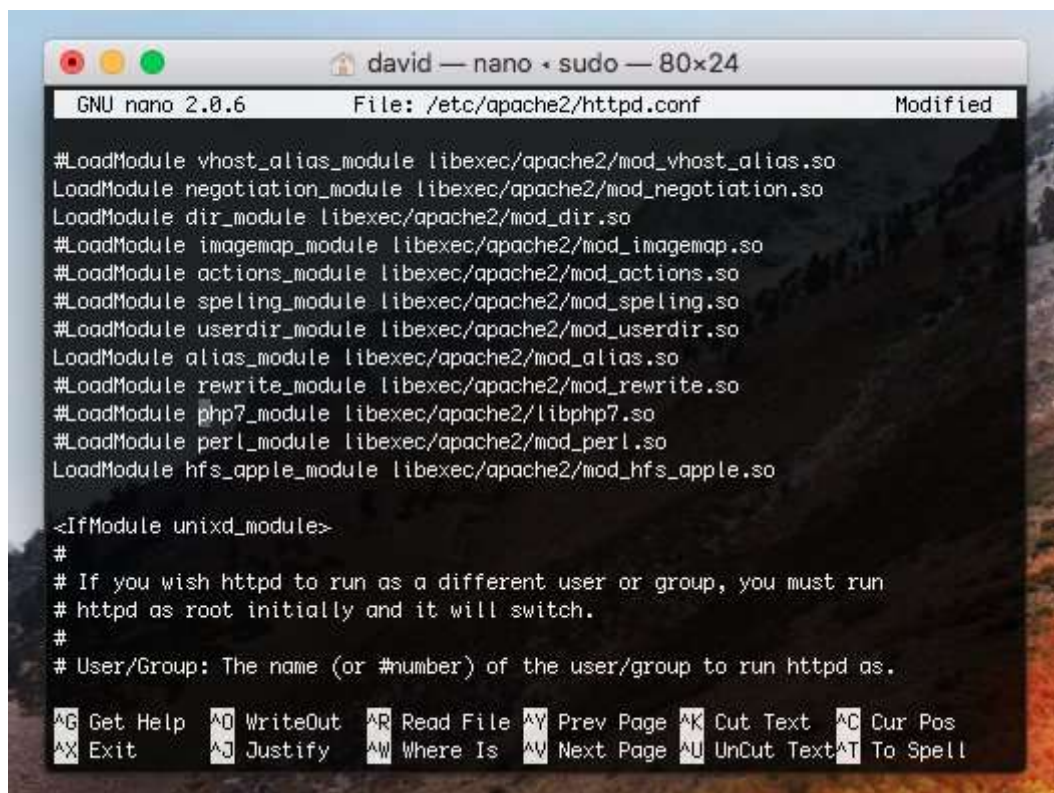3. Open Safari (or your browser of choice), type localhost in the address bar, and press enter

Can't believe it's that easy? It is! You should now see It works! in the browser.
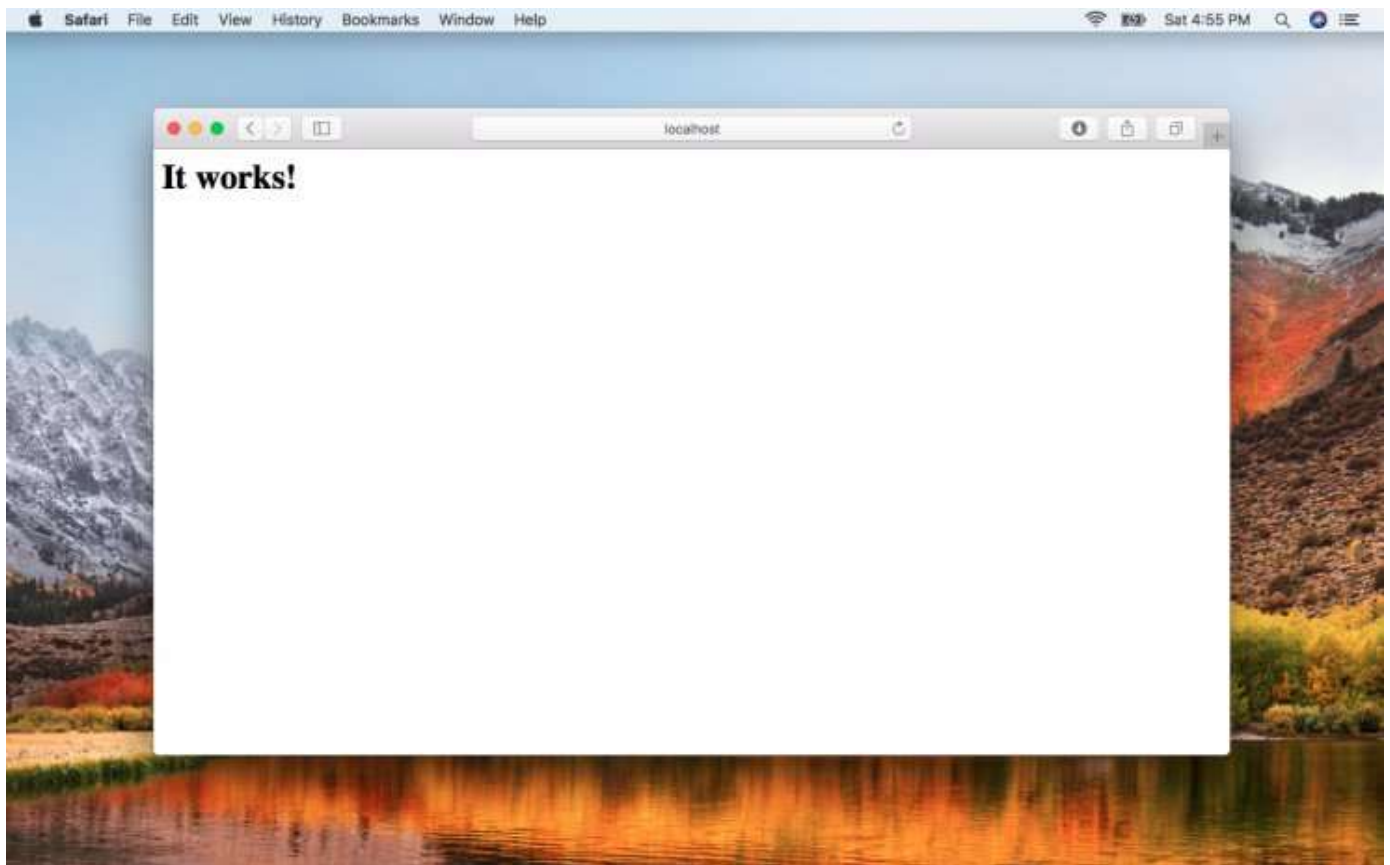
Turn on PHP

Mac already comes with PHP, so you don't need to install it from PHP.net. Before High Sierra (version 10.13), Mac came with PHP 5 installed. This caused users to get annoyed because it didn't come with PHP 7, so you'd have to go through extra work to upgrade from PHP 5 to PHP 7. Thankfully High Sierra already comes with PHP 7.1!!!

1. Open Terminal and type `sudo nano /etc/apache2/httpd.conf` and press enter
2. Press **Ctrl+W** which will bring up a search
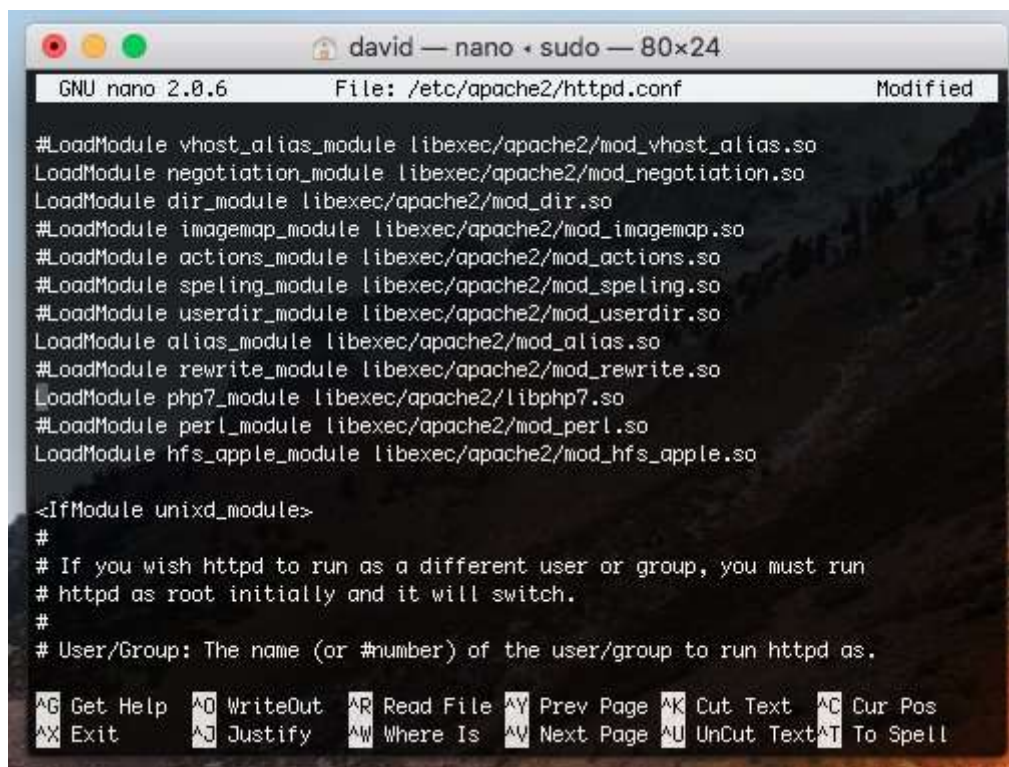3. Search for **php** and press enter. You'll see the following:

4. Delete the # from `#LoadModule php7_module libexec/apache2/libphp7.so`

5. Press **Ctrl+O** followed by Enter to save the change you just made

6. Press **Ctrl+X** to exit nano

7. Type `sudo apachectl restart` and press enter
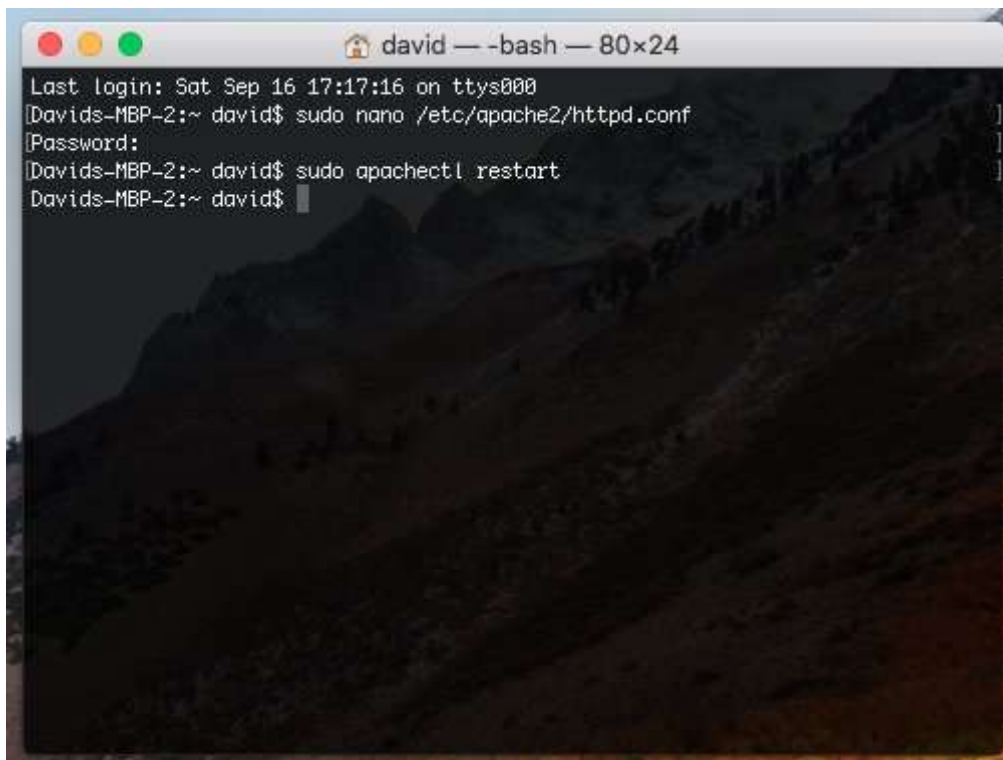
You just turned PHP 7 on. Great work so far!

Create Sites Folder

1. Click on Finder at the bottom left corner of your screen and click on **Go > Home** the top navigation bar. This will take you to your home directory, which will also be whatever your computer is named; in this case it's **david**.

2. Create a new folder and name it **Sites** (The Safari icon shown below gets added automatically to the Sites folder as shown below)
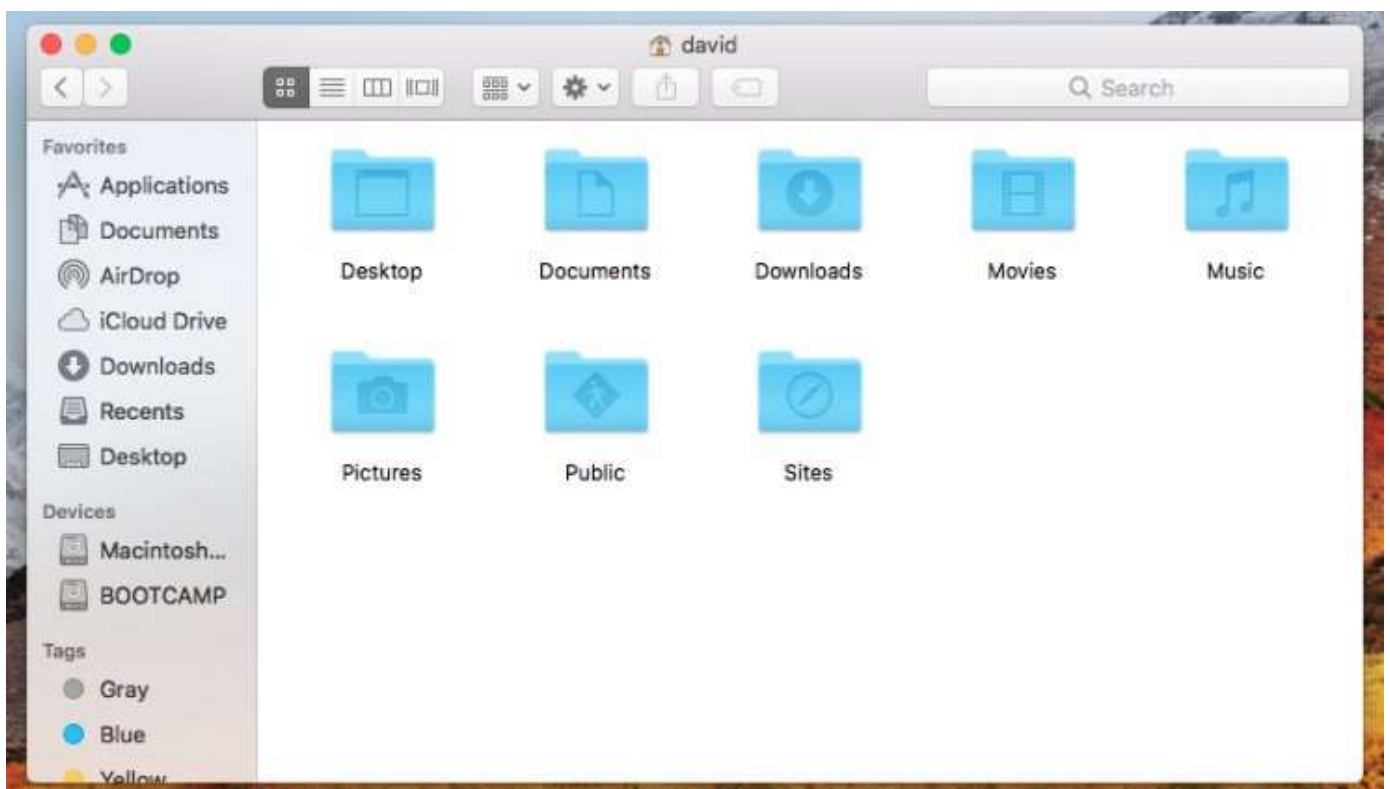
3. Open your favorite text editor and create a file called **index.php** with the following code:

```
1  <?php
2  echo "Hello From Sites Folder!";
3  phpinfo();
4  ?>
```

4. Save **index.php** in the Sites folder you created

5. Go back to Terminal and enter `sudo nano /etc/apache2/httpd.conf`

6. Press **Ctrl+W** to bring up search

7. Search for **Library** and press enter. You should see this:

8. Replace *both* occurrences of `/Library/WebServer/Documents` with `/Users/david/Sites` (instead of david use your name which can be found at the top of your terminal next to the home icon)

9. Press **Ctrl+O** followed by Enter to save these changes

10. Press **Ctrl+X** to exit nano
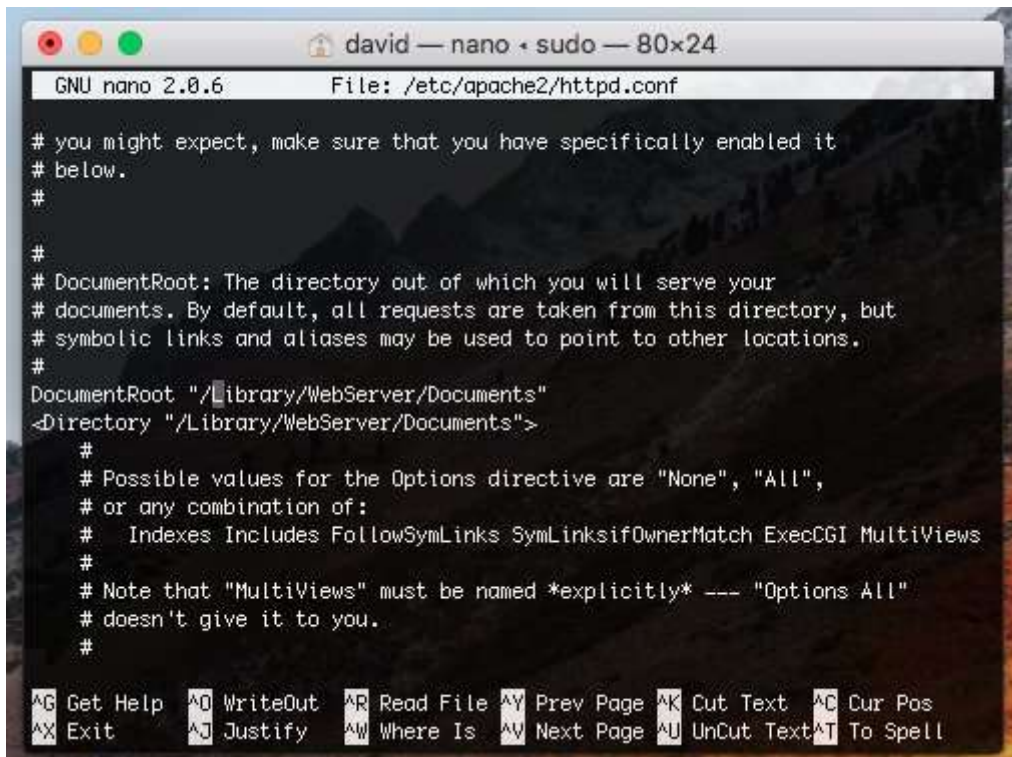
11. Type `sudo apachectl restart` and press enter

Go back to Safari and refresh the localhost page and you'll see Hello From Sites Folder! with PHP info that shows PHP 7 is being used.

Install MySQL

1. Go to https://dev.mysql.com/downloads/mysql (https://dev.mysql.com/downloads/mysql)

2. Scroll down until you see three download buttons and click on the one next to DMG Archive
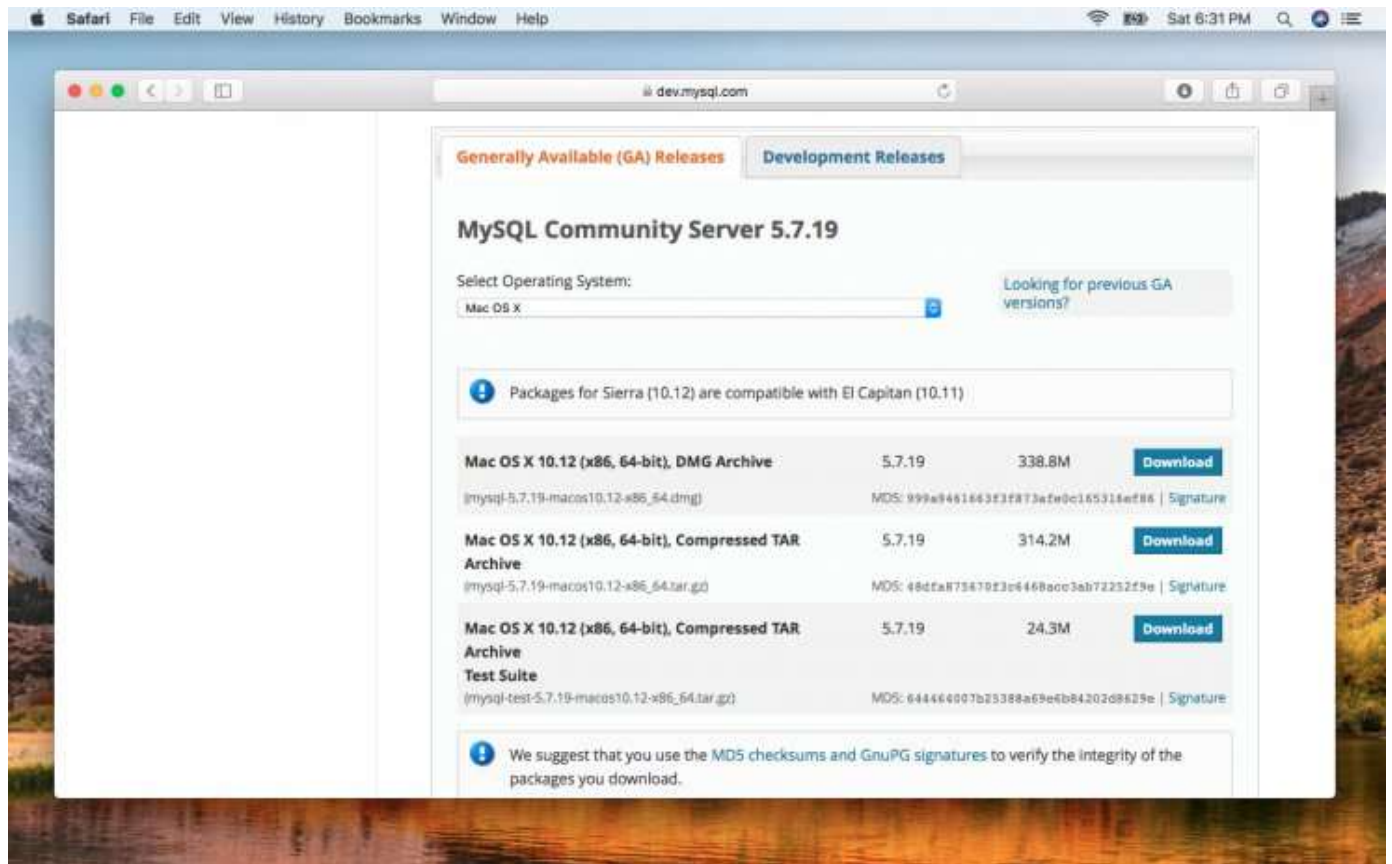
3. Scroll down and click No thanks, just start my download

4. Click on the downloaded file, double click the pkg file, and go through the installation which should look like this:
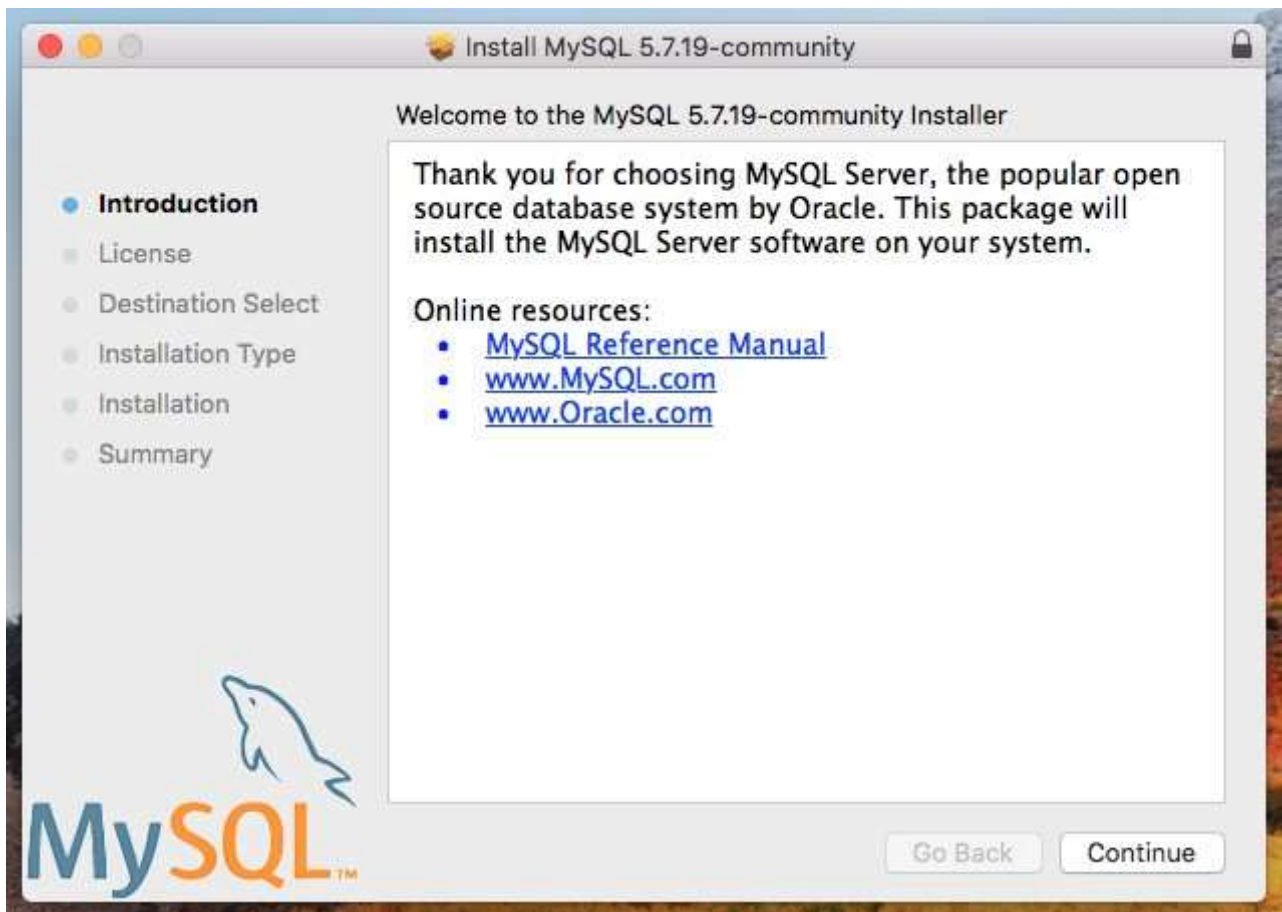
5. Once you get to the end of the installation, you'll see a popup that gives you your MySQL username (root) and password (8hxKsiIh?YMt). Your password will be different. Copy the password to text file (or take a screenshot) and press okay. **Do this now, as it will be pain to reset the password if you don't know it.**
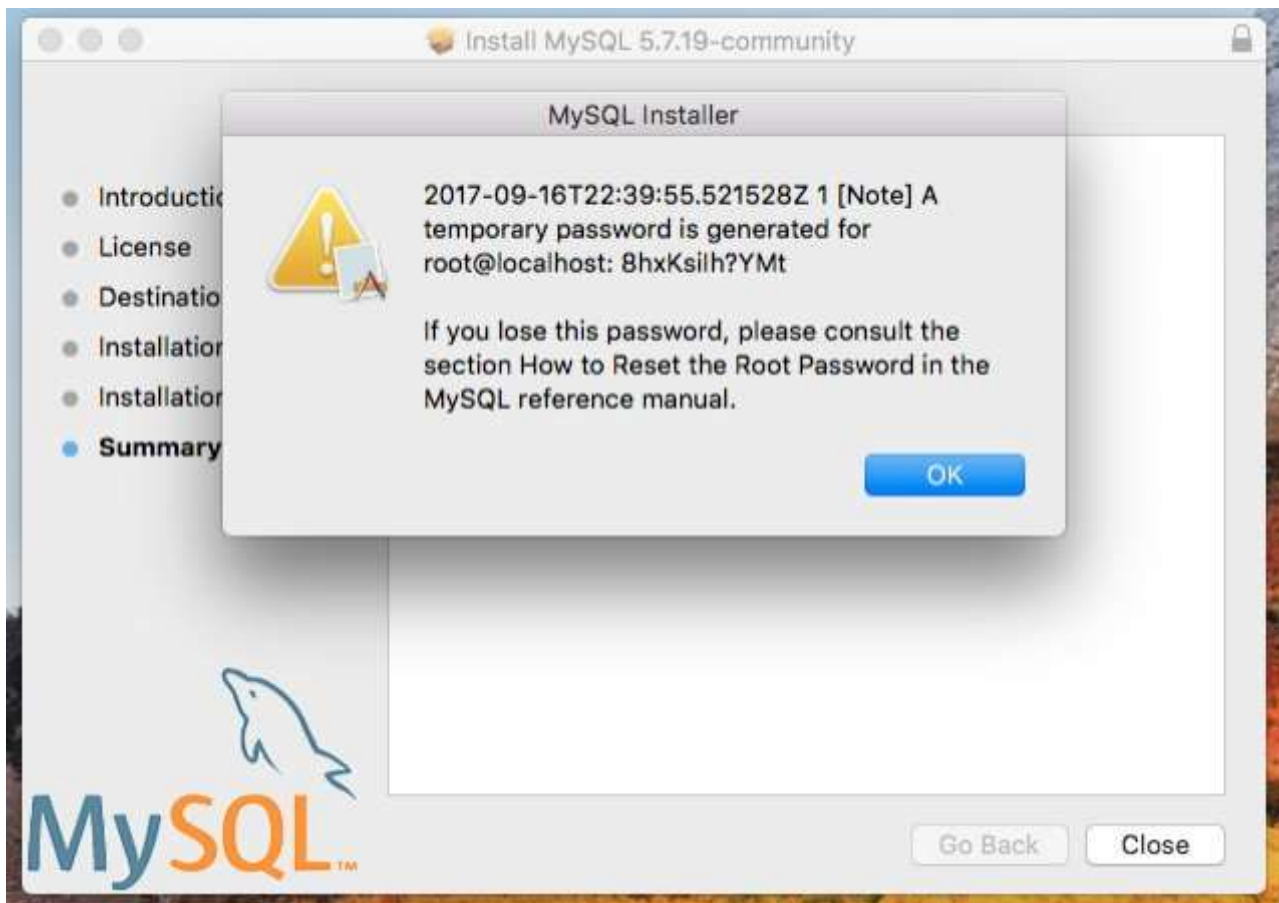
6. Press the Apple logo at the top left of your screen and go to System Preferences

7. Click on MySQL and you'll see that it's turned off

8. Press **Start MySQL Server** to turn it on and you'll see:

9. Go back to Terminal and type `sudo /usr/local/mysql/bin/mysql -u root -p`

10. When you press enter it will ask you for your Password. This is the password you use when you login to your Mac

11. Then it says Enter Password: which is 8hxKsiIh?YMt for me (you should use the password you copied earlier instead of 8hxKsiIh?YMt). You'll see this screen:

12. Type `ALTER USER 'root'@'localhost' IDENTIFIED BY 'newpassword';` and press enter

```
Last login: Sat Sep 16 19:25:52 on ttys000
[Davids-MBP-2:~ david$ sudo /usr/local/mysql/bin/mysql -u root -p
[Password:
[Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 43
Server version: 5.7.19

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

[mysql> ALTER USER 'root'@'localhost' IDENTIFIED BY 'newpassword';
Query OK, 0 rows affected (0.05 sec)

mysql>
```
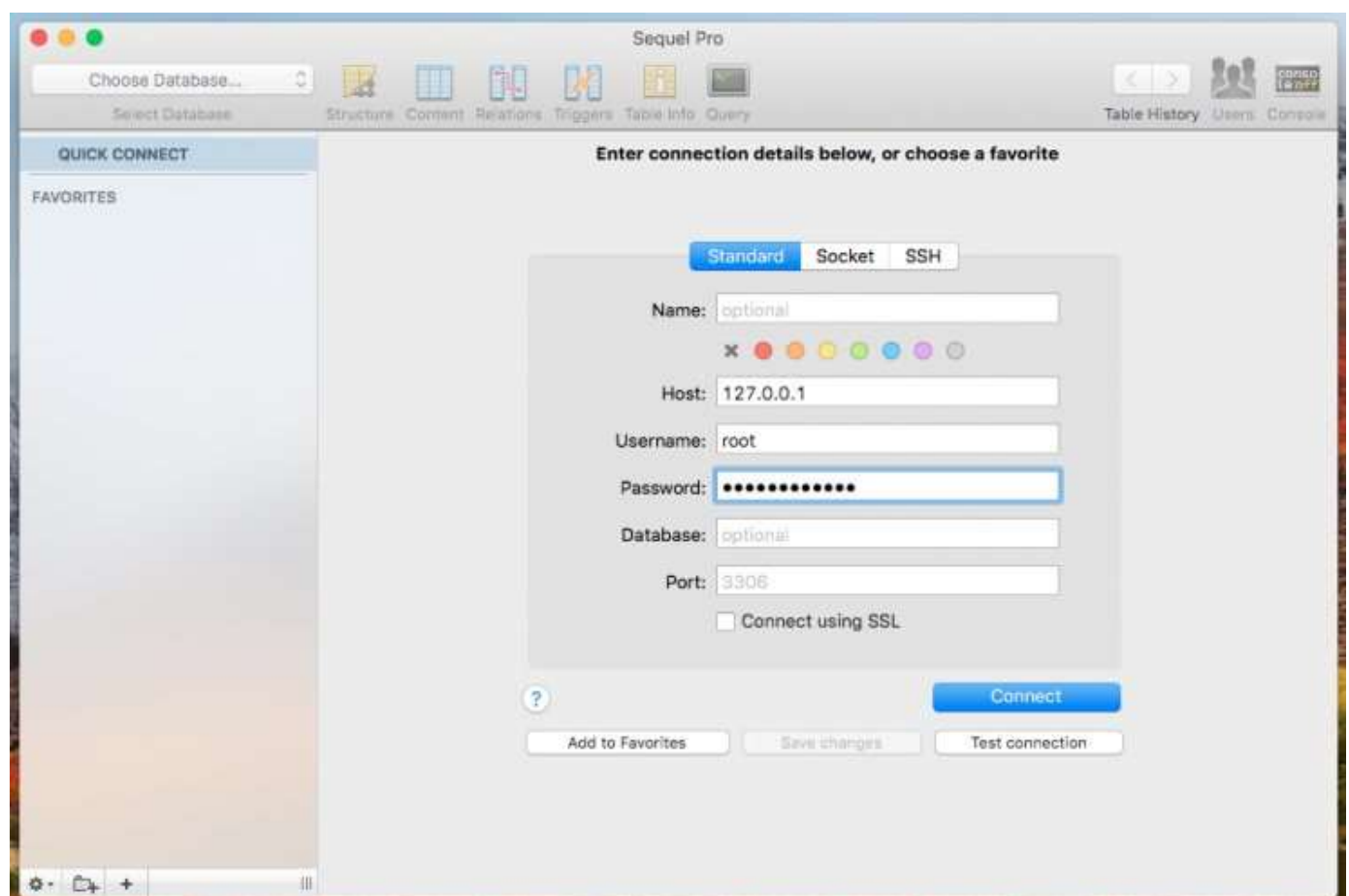
13. Go to https://www.sequelpro.com (https://www.sequelpro.com) and download Sequel Pro. This is like phpMyAdmin, but better because it's a desktop app.

14. Go through the installation, open Sequel Pro, and enter **127.0.0.1** for the Host. Enter **root** for the Username and **newpassword** for the Password. Press Connect

15. Click **Choose Database...** at the top left followed by **Add Database...**

16. Give it the name **mydb** and press enter

17. Then click the plus sign at the bottom left to create a new table. Name the table **mytable** and press add

18. Click the plus sign right above the word INDEXES and name the field **message**. Set the type to VARCHAR and give it a length of 200.

19. Click on **Content** at the top.

20. Click the plus sign at the bottom (the one to the left of the minus sign)

21. Give the new entry an id of **1** and set the message to **MySQL works perfectly!**
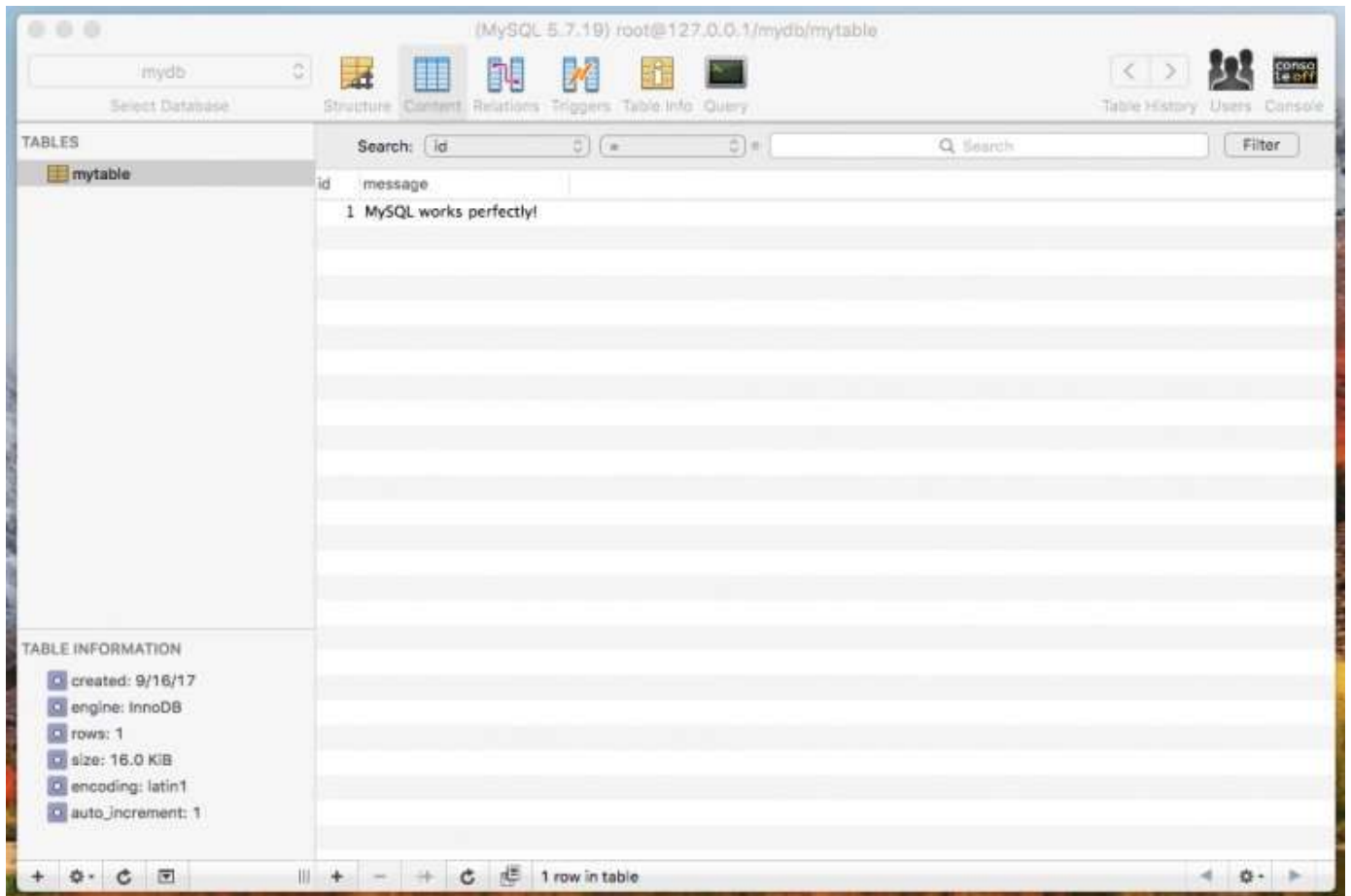

22. Open **index.php** in your Sites folder and change the code to

```
1  <?php
2  $con = new mysqli("127.0.0.1", "root", "newpassword", "mydb");
3  $message = $con->query("SELECT message FROM myTable")->fetch_object()->message;
4  $con->close();
5  echo "$message <br/>";
6  echo "Hello From Sites Folder!";
7  phpinfo();
```

Obviously this example is immune to SQL injection, since there are no user-inputted values. However, if you don't understand MySQLi prepared statements as well as you'd like, check out this post (https://websitebeaver.com/prepared-statements-in-php-mysqli-to-prevent-

sql-injection) for an excellent tutorial on how to prevent SQL injection 😊. There's even a PDO version (https://websitebeaver.com/php-pdo-prepared-statements-to-prevent-sql-injection), if you prefer that more.

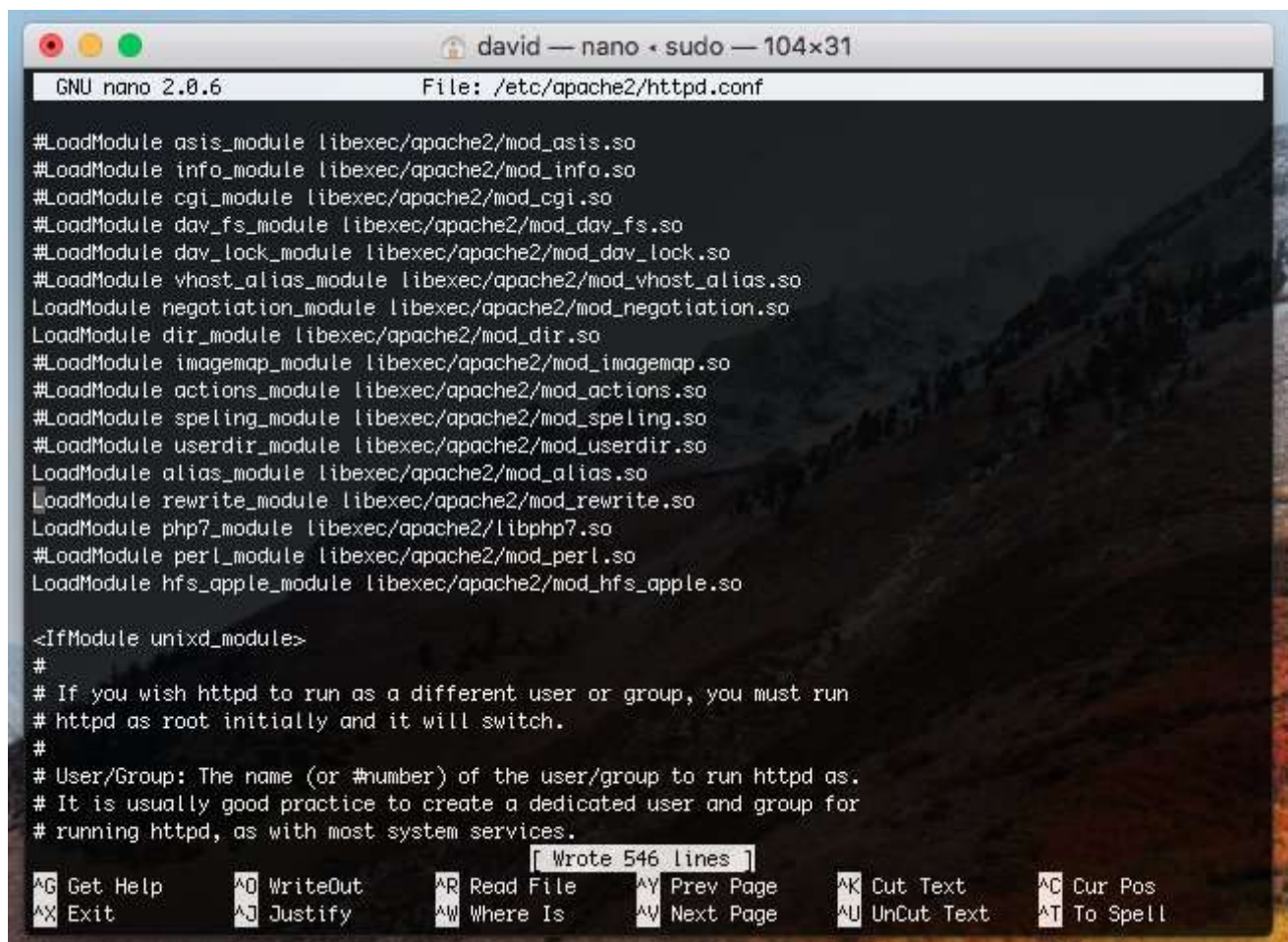23. Refresh localhost on Safari and you should see:
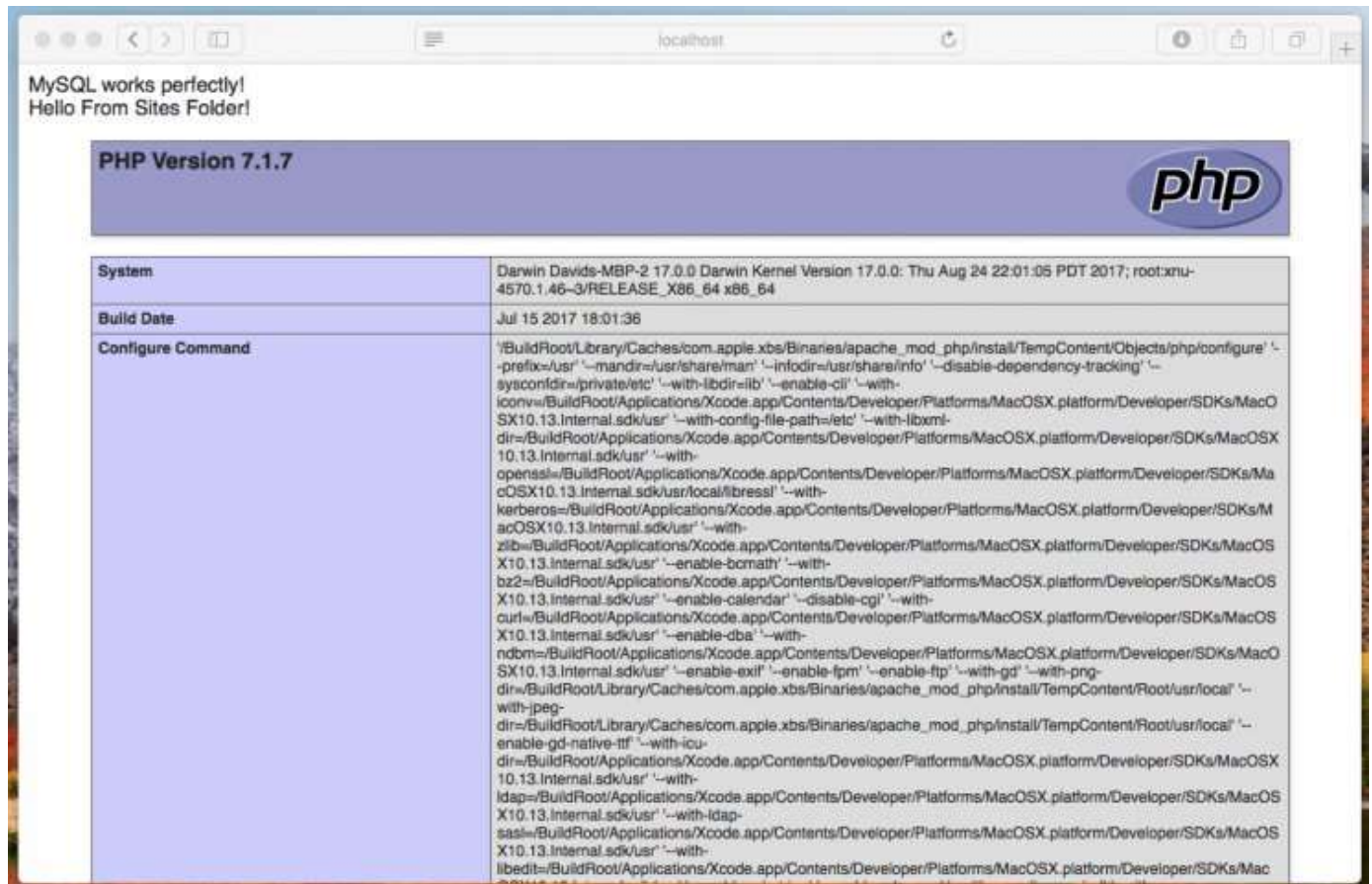
Great! You now have MySQL working, so you can use localhost to store information in databases.

Make SEO Friendly URLs Work

Instead of going to **localhost/profile.php?user=david**, it looks nicer when you can go to **localhost/profile/david**. Let's make this work by enabling **mod_rewrite** so you can use **RewriteRules**.

1. Go to Terminal and type `sudo nano /etc/apache2/httpd.conf` followed by pressing enter

2. Press **Ctrl+W**, type **rewrite**, and press enter

3. Remove the **#** in `#LoadModule rewrite_module libexec/apache2/mod_rewrite.so`

4. Press **Ctrl+O** followed by Enter to save

5. Press **Ctrl+X** to exit nano

6. Type `sudo apachectl restart`

Now you can use friendly URLs when you develop using localhost.

Make .htaccess Work

This isn't necessary to make vanity URLs work, but I personally prefer using an .htaccess file, as it allows me version control it.

1. Go to Terminal and type `sudo nano /etc/apache2/httpd.conf` followed by pressing enter

2. Press **Ctrl+W**, type `AllowOverride controls`, and press enter

3. Change `AllowOverride None` to `AllowOverride All`
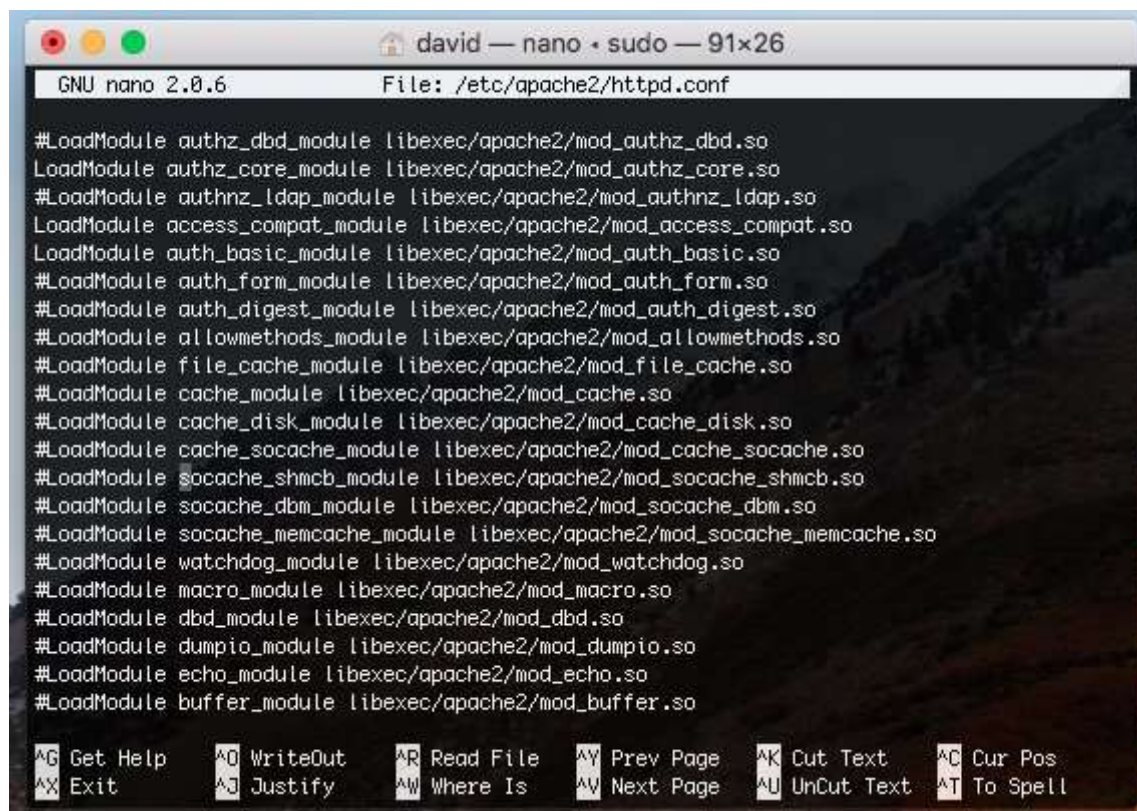
4. Press **Ctrl+O** followed by Enter to save

5. Press **Ctrl+X** to exit nano

6. Type `sudo apachectl restart`

Now you can add a .htaccess file in the Sites folder and it will work well.

Turn On SSL/HTTPS

Instead of accessing your website through localhost, you might want to access your website by going to https://localhost. If you turn on SSL, you'll see a padlock next to localhost in the URL bar.

1. Go to Terminal and type `sudo nano /etc/apache2/httpd.conf` followed by pressing enter
2. Press **Ctrl+W**, type **socache_shmcb_module**, and press enter

3. Delete the # from `#LoadModule socache_shmcb_module`

`libexec/apache2/mod_socache_shmcb.so`

4. Press **Ctrl+W**, type **mod_ssl**, and press enter

5. Delete the # from `#LoadModule ssl_module libexec/apache2/mod_ssl.so`

6. Press **Ctrl+W**, type **httpd-ssl**, and press enter

7. Delete the # from `#Include /private/etc/apache2/extra/httpd-ssl.conf`

8. Press **Ctrl+O** followed by Enter to save

9. Press **Ctrl+X** to exit nano

10. Type `sudo nano /etc/apache2/extra/httpd-ssl.conf` and press enter

11. Press **Ctrl+W**, type **ServerName**, and press enter

12. Replace **www.example.com:443** with **localhost**

13. Right above you'll see `/Library/WebServer/Documents` . Replace that with `/Users/david/Sites` . (Use your name instead of david just like you did earlier)

14. Right underneath `<VirtualHost_default_:443>` add (but make sure to replace david with your name):

```
1  <Directory "/Users/david/Sites">
2    Options All
3    MultiviewsMatch Any
4    AllowOverride All
5    Require all granted
6  </Directory>
```

15. Your terminal should now look like this:

16. Press **Ctrl+O** followed by Enter to save

17. Press **Ctrl+X** to exit nano

18. Type `sudo nano /etc/ssl/openssl.cnf` and press enter

19. At the bottom of **openssl.cnf** add this:

```
1  [ san ]
2  subjectAltName               = DNS:localhost
```

20. Your terminal should look like this:

21. Press **Ctrl+O** followed by Enter to save

22. Press **Ctrl+X** to exit nano

23. Type

```
sudo openssl req -extensions san -config /etc/ssl/openssl.cnf -x509 -nodes -newkey rsa:4096 -k
```

and press enter. (You can use your information instead, but don't change localhost)

24. Type

```
sudo security add-trusted-cert -d -r trustRoot -k /Library/Keychains/System.keychain /private/
```

and press enter

25. Type `sudo apachectl restart`

26. Now go to **https://localhost** in your browser, and you'll see a padlock next to the url which means you're done setting up SSL!

As always, if you have any questions please leave them in the comments, and we'll do our best to help you.

Author - David Marcus

160 Comments

Add a comment...

Esteban Paredez

Hi! im having these problem while opening Sequel Pro (step 14).
Can you help me?

Connection failed!
Unable to connect to host 127.0.0.1, or the request timed out.

Be sure that the address is correct and that you have the necessary privileges, or try increasing the c

MySQL said: Authentication plugin 'caching_sha2_password' cannot be loaded: dlopen(/usr/local/lib/

Like · Reply · 3w

> **Jennifer Warrior**
>
> I'm having the exact same problem. Any word yet on how to fix this?
>
> Like · Reply · 1w

Ibourahema Coulibaly

Hello sir, How to install OJS on mac?
please help me

Like · Reply · 3w

Obed Wiredu Nkrumah

Hi, I was doing great with your instructions until I got to the part about Turn on SSL/HTTPS. After follc

Safari can't open the page "https://localhost" because Safari can't establish a secure connection to th

I have also tried Chrome and get a similar response.

I have read through the comments but am still coming up short somewhere! Could you help me out a

Like · Reply · 4w

Andrew Richard

I had a problem with connecting Sequel Pro 1.1.2 to MySQL 8. When I went back to the prior version

Thanks!

Like · Reply · 4w

Karl Holland

Hi, I was doing great with your instructions until I got to the part about Turn on SSL/HTTPS. After follc

Safari can't open the page "https://localhost" because Safari can't establish a secure connection to th

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