

DBMS Lab

Introduction



Things we will complete today

1. Database Software Installation

2. Loading a Sample database

3. Run basic SQL query on loaded database

4. Learn about some additional tools



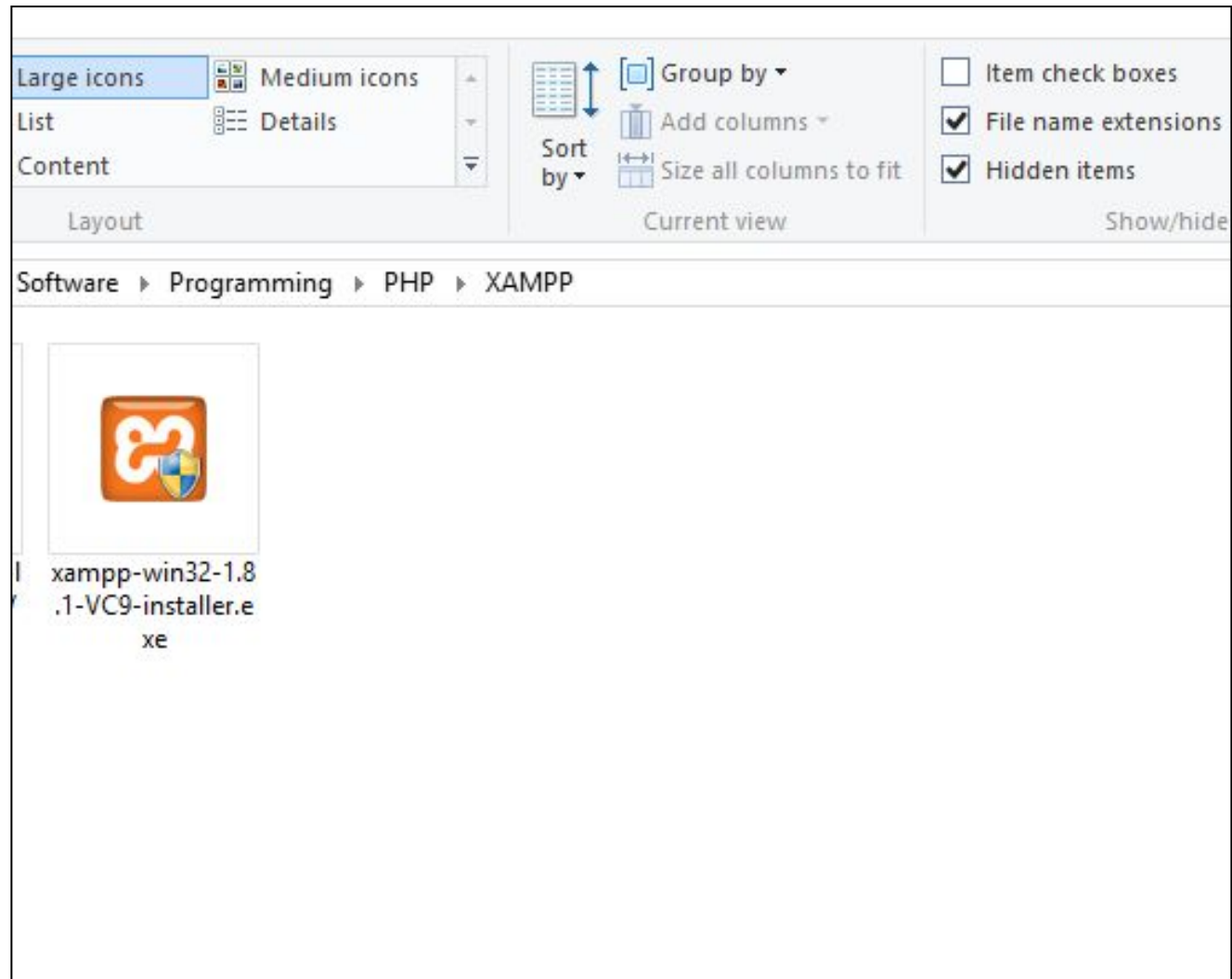
Installation



1. Database Software Installation



1. Database Software Installation

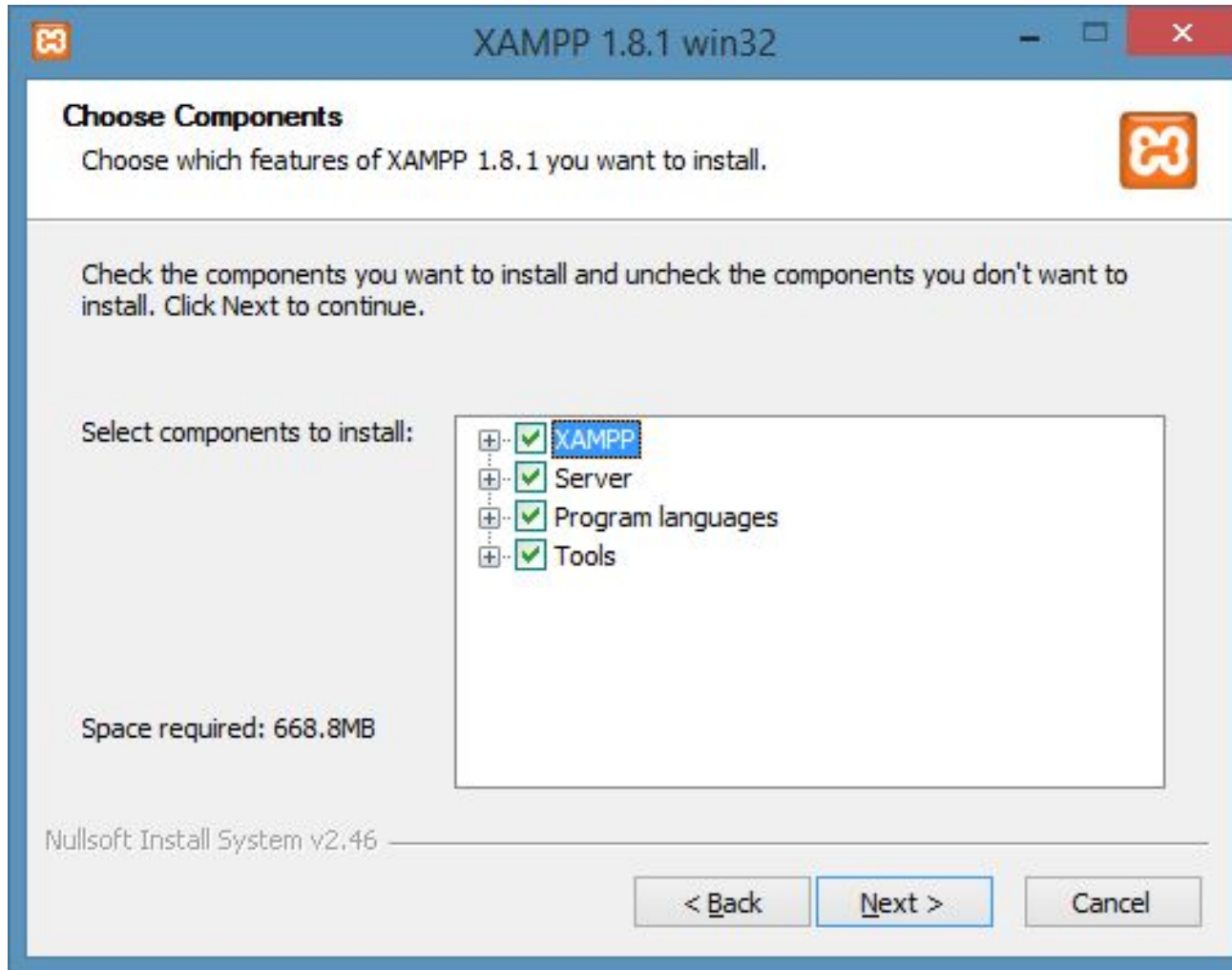


1. Database Software Installation

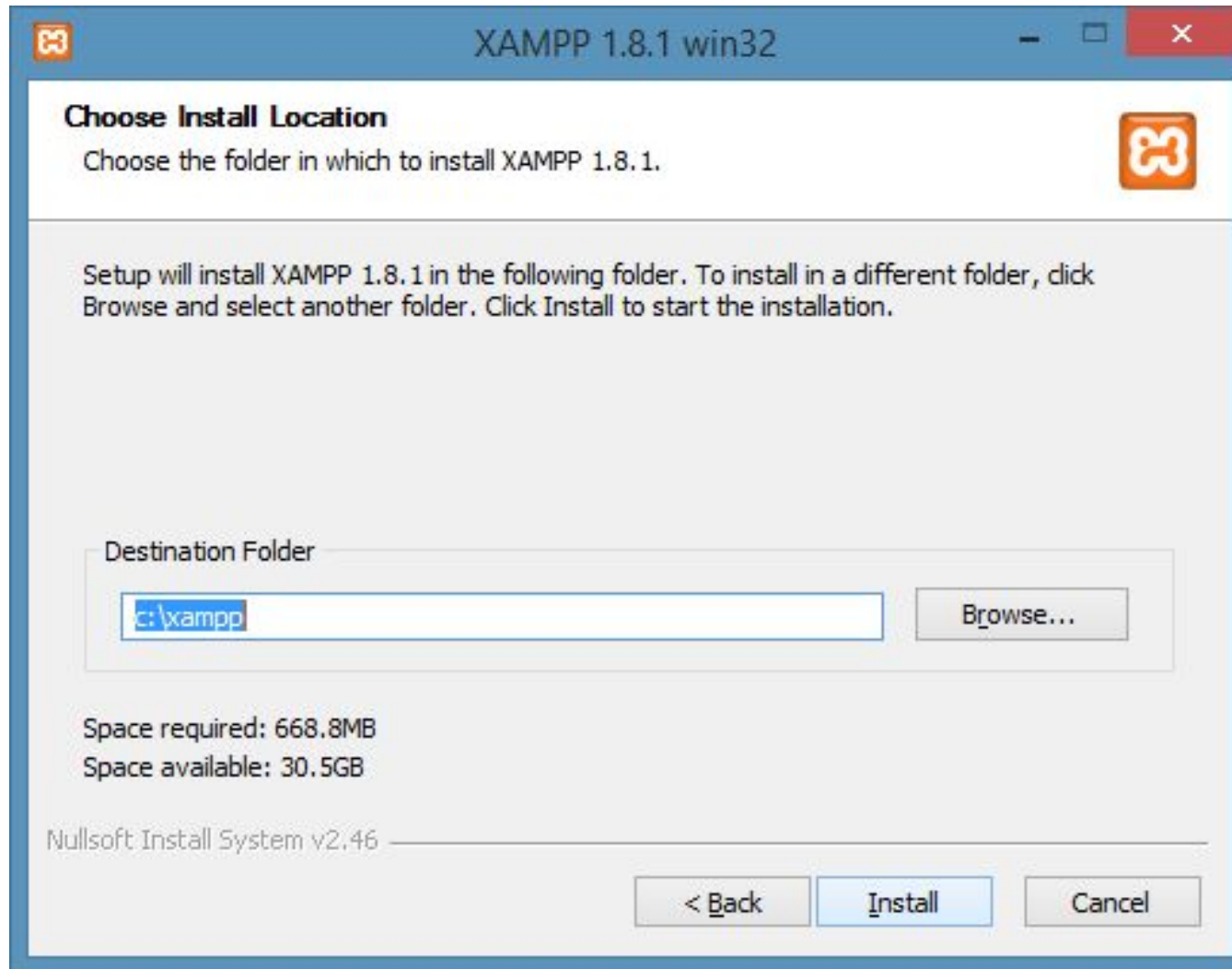
XAMPP 1.8.1 win32



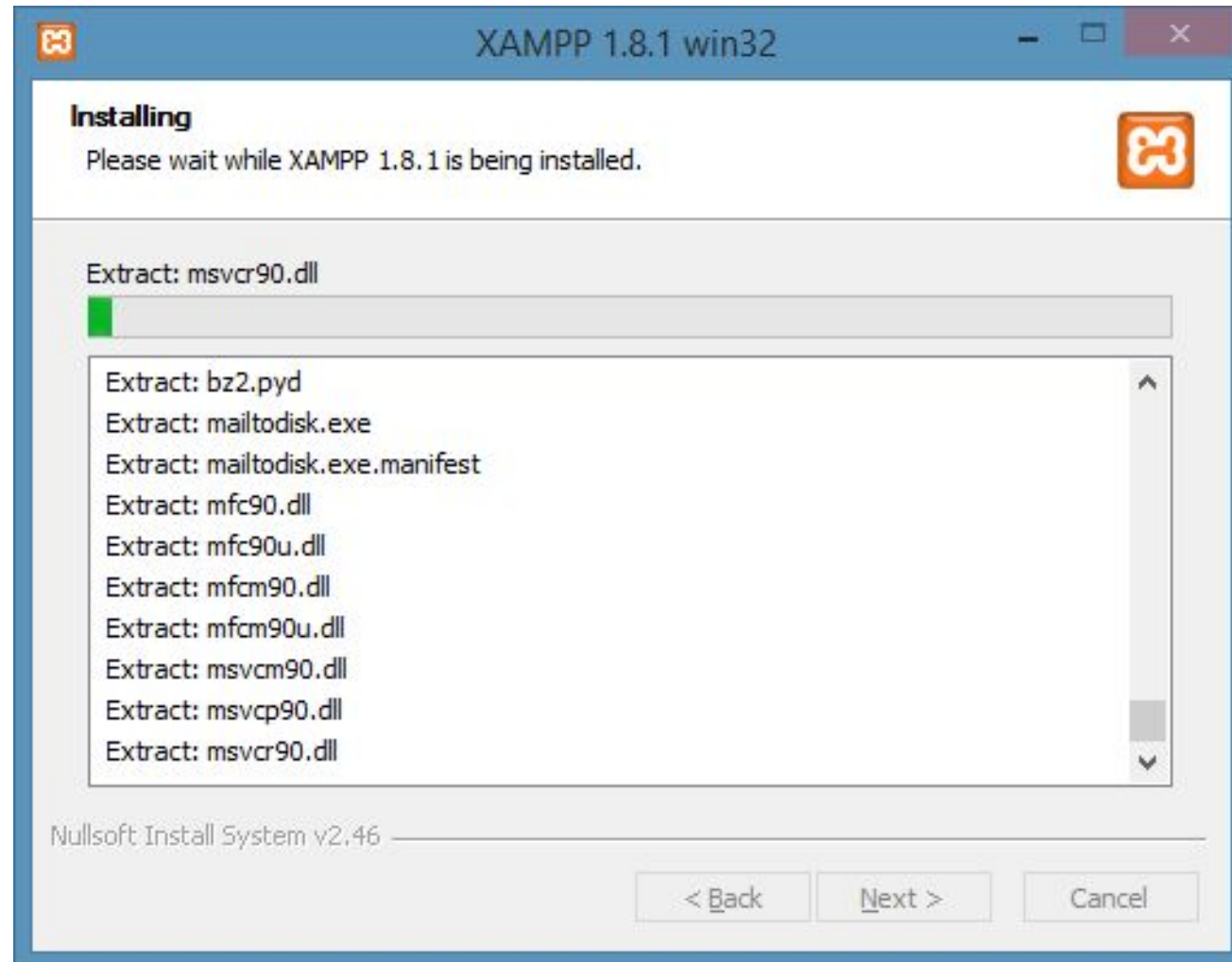
1. Database Software Installation



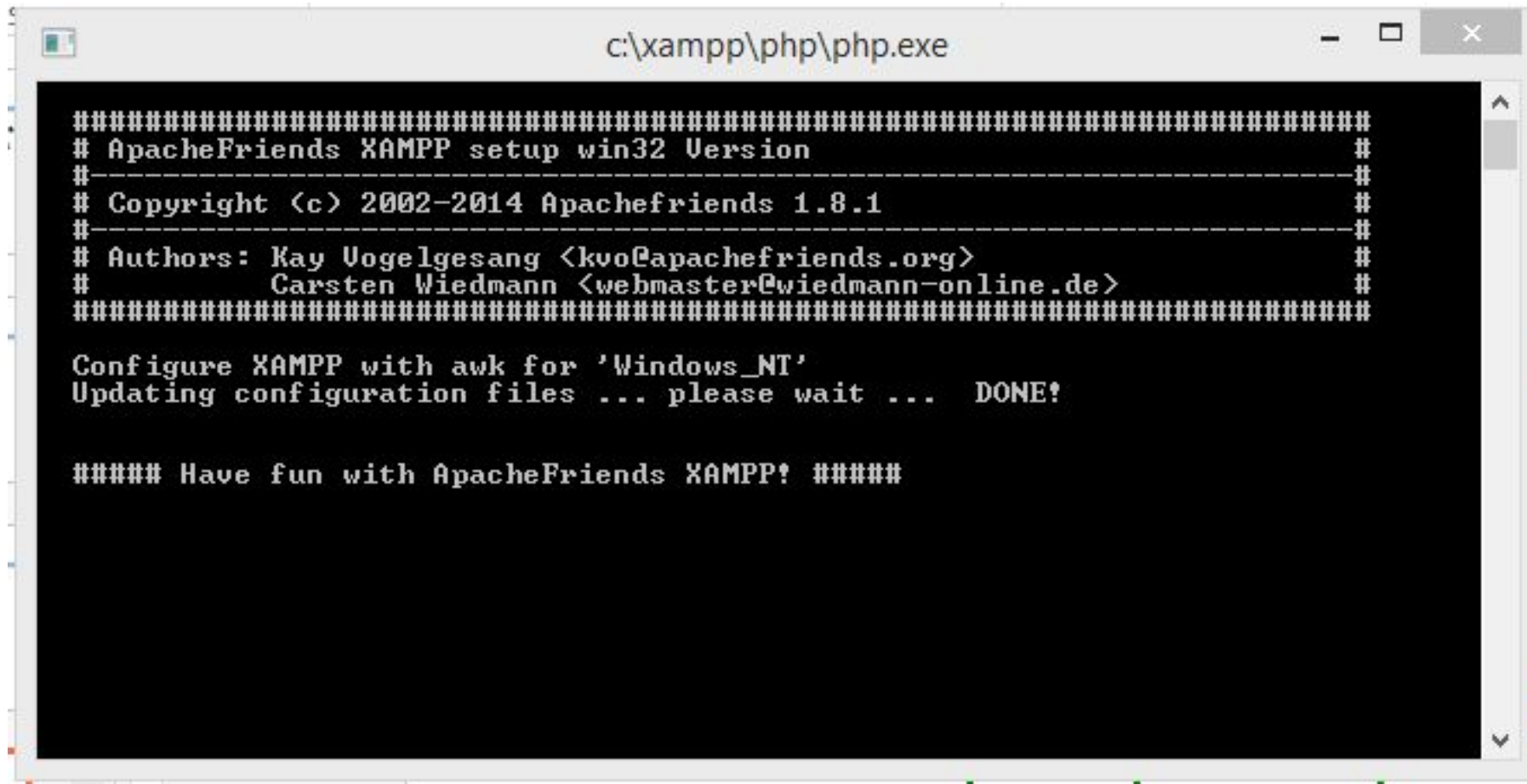
1. Database Software Installation



1. Database Software Installation



1. Database Software Installation



```
c:\xampp\php\php.exe

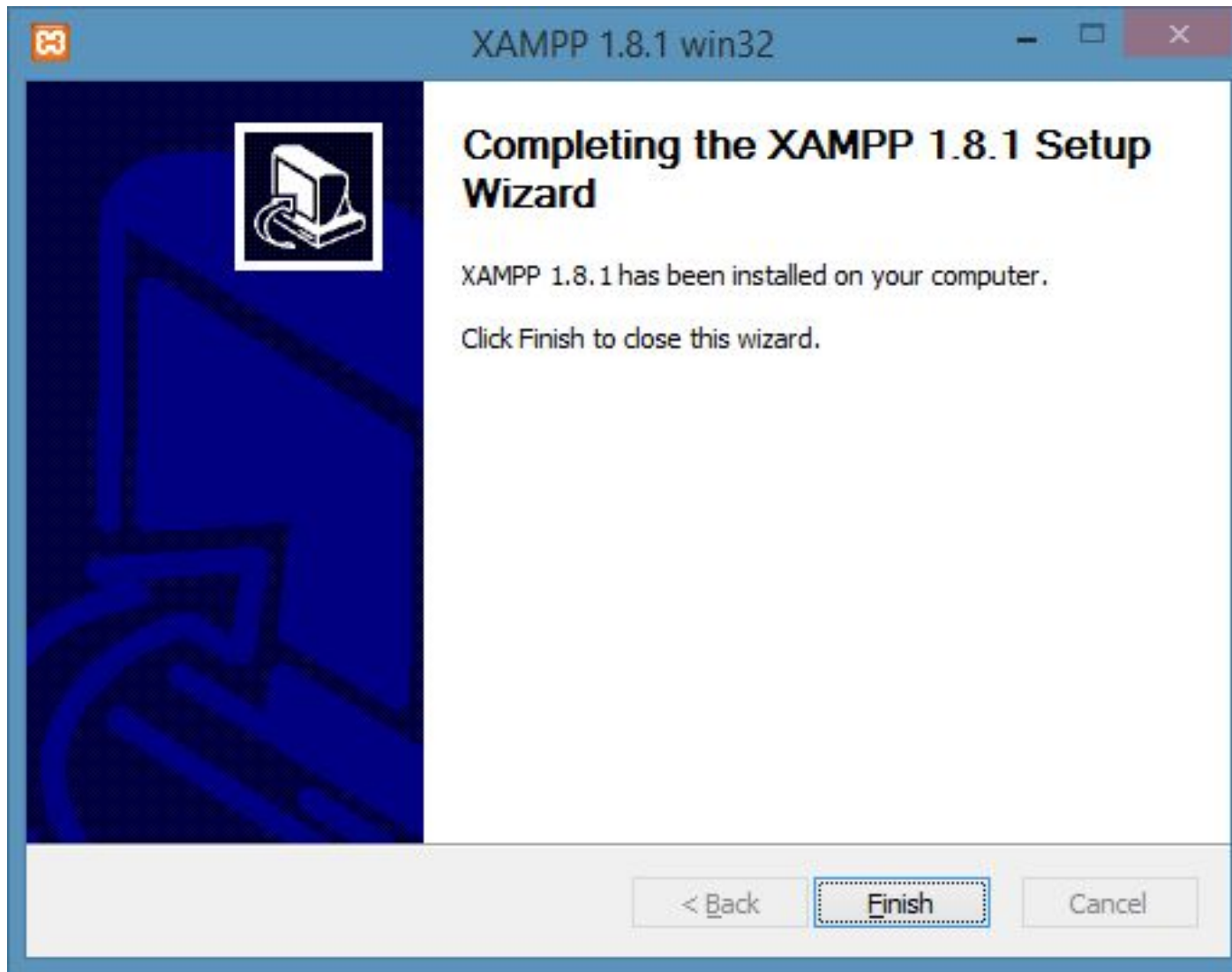
#####
# ApacheFriends XAMPP setup win32 Version                                     #
#-----                                                                    #
# Copyright (c) 2002-2014 ApacheFriends 1.8.1                               #
#-----                                                                    #
# Authors: Kay Vogelgesang <kvo@apachefriends.org>                           #
#           Carsten Wiedmann <webmaster@wiedmann-online.de>                 #
#####

Configure XAMPP with awk for 'Windows_NT'
Updating configuration files ... please wait ...  DONE!

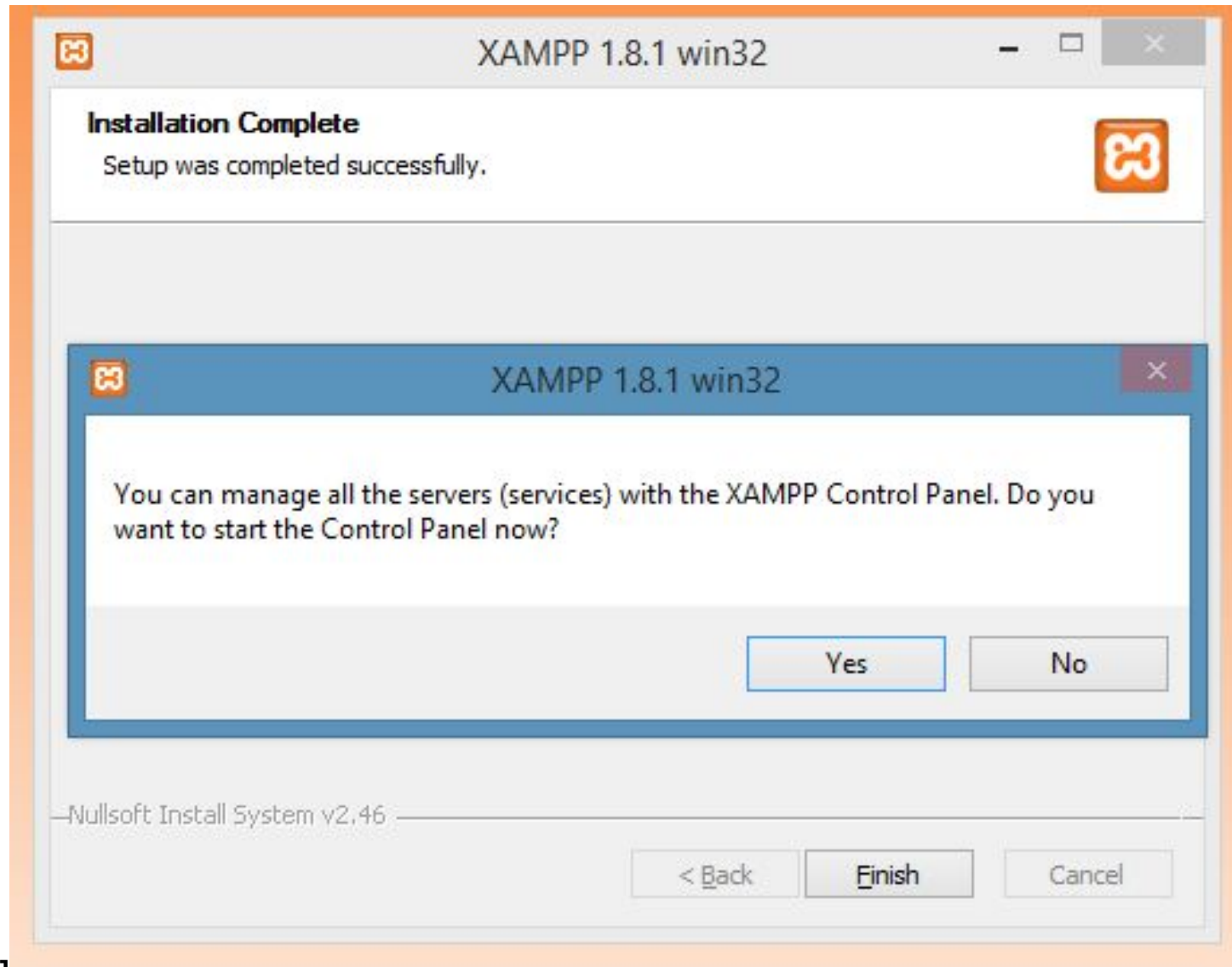
##### Have fun with ApacheFriends XAMPP! #####
```



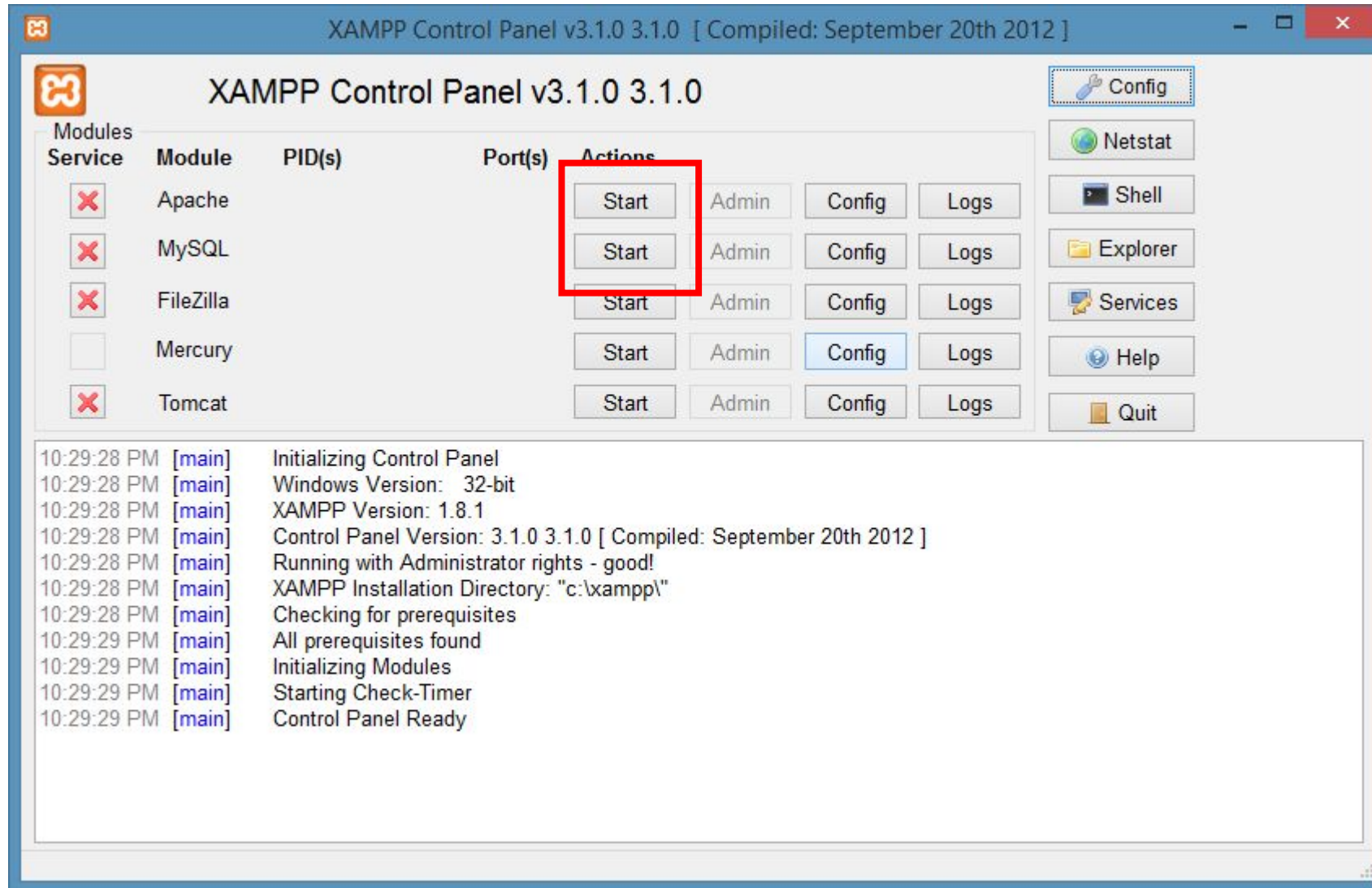
1. Database Software Installation



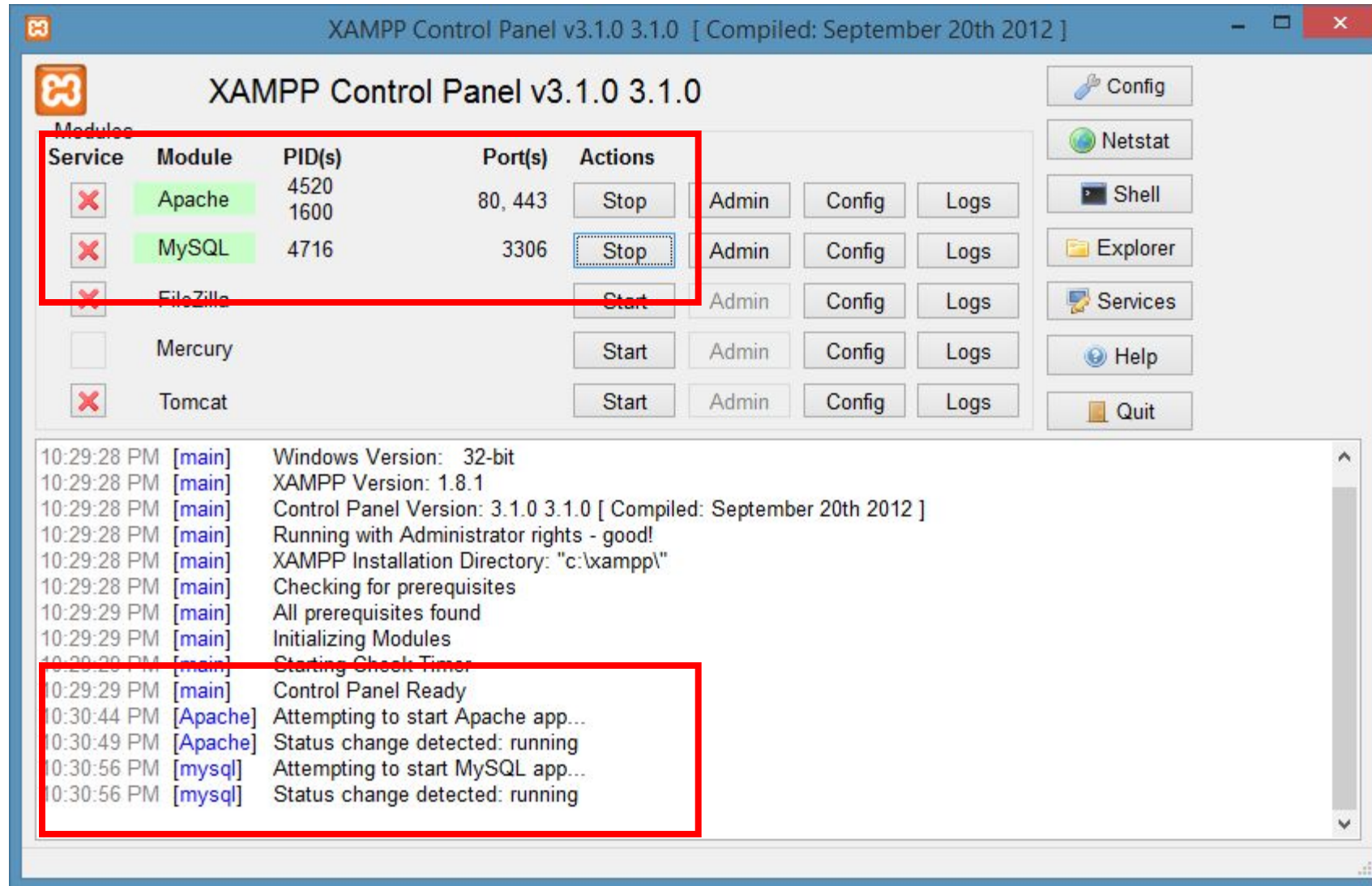
1. Database Software Installation



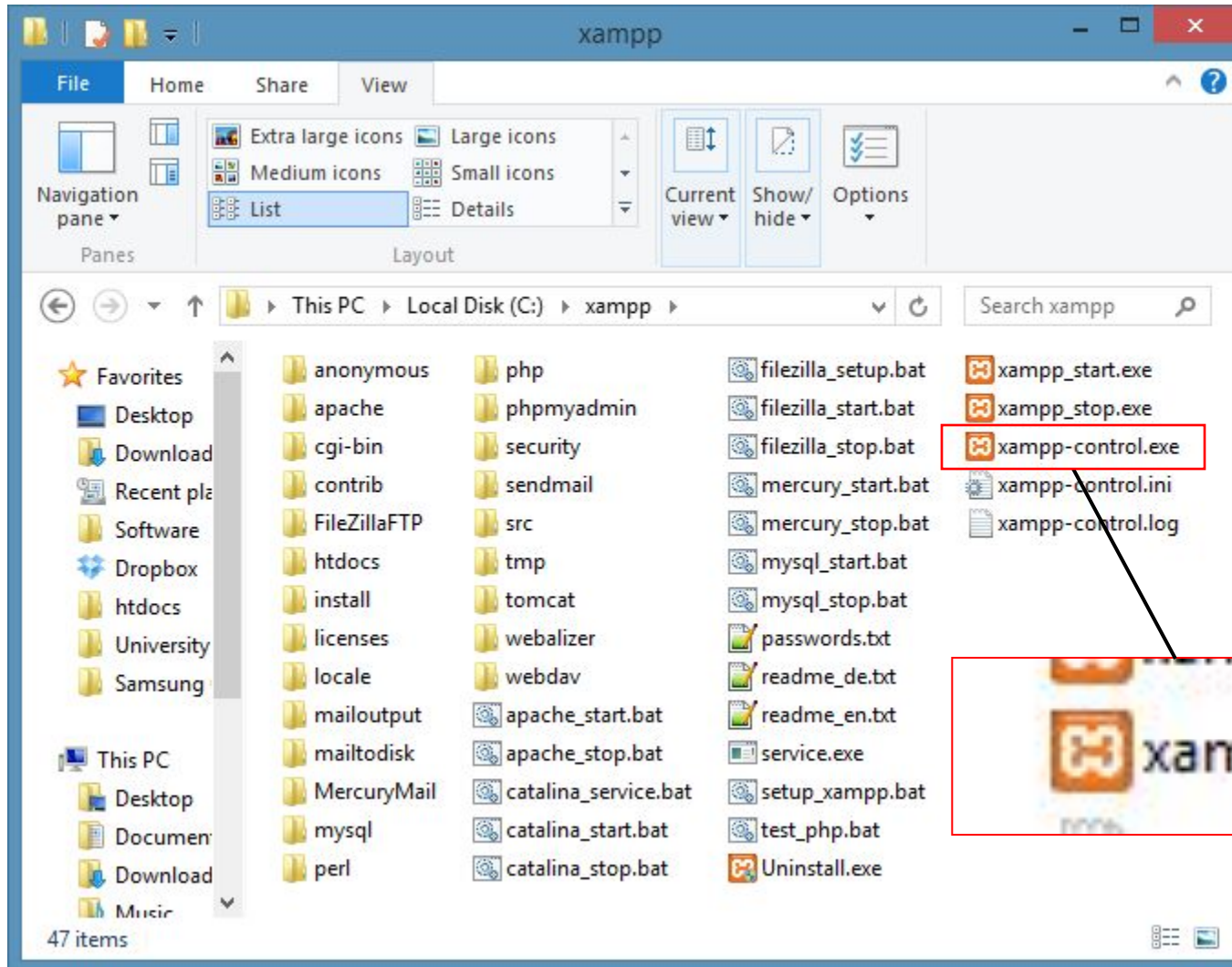
1. Database Software Installation



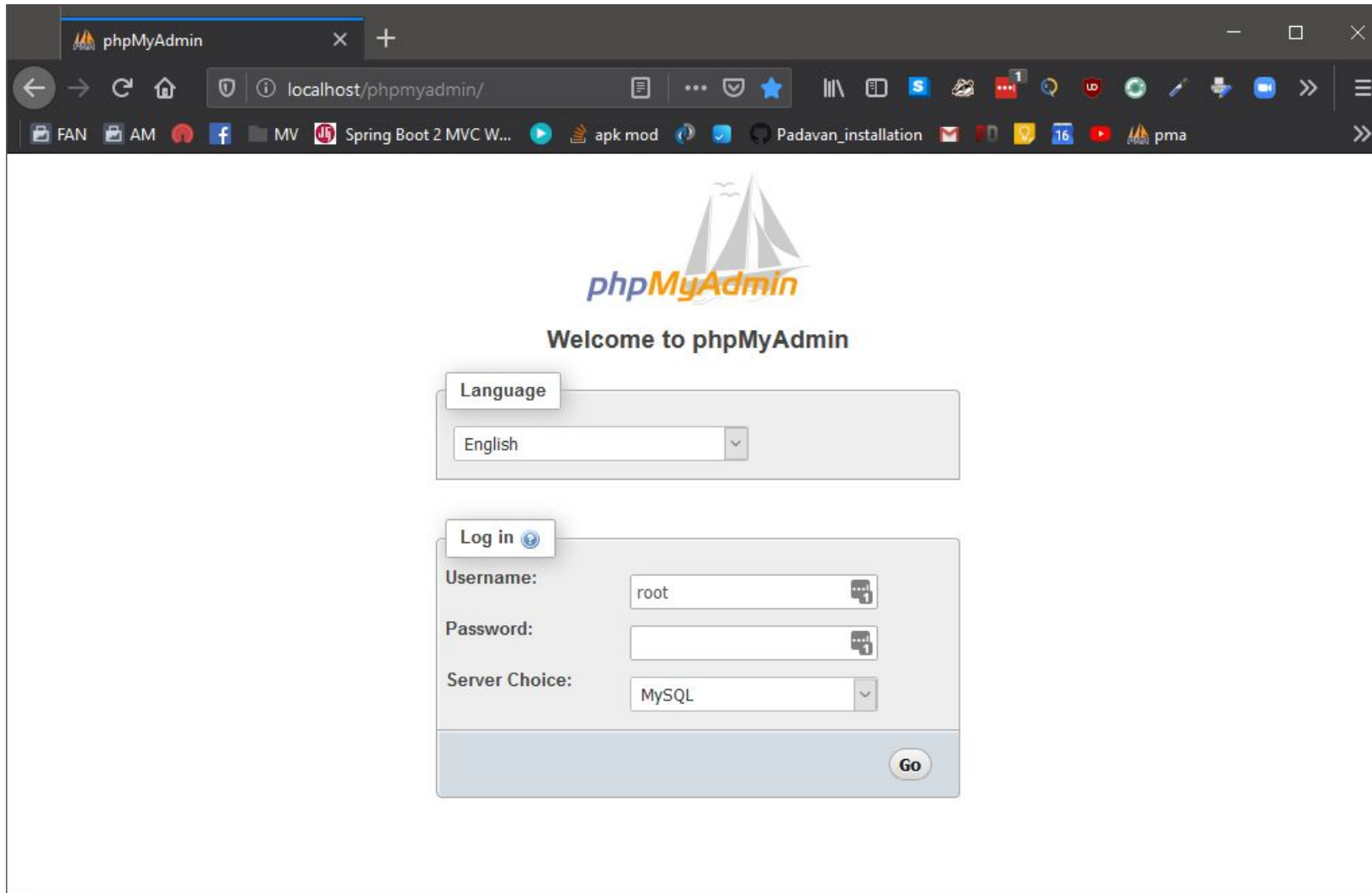
1. Database Software Installation



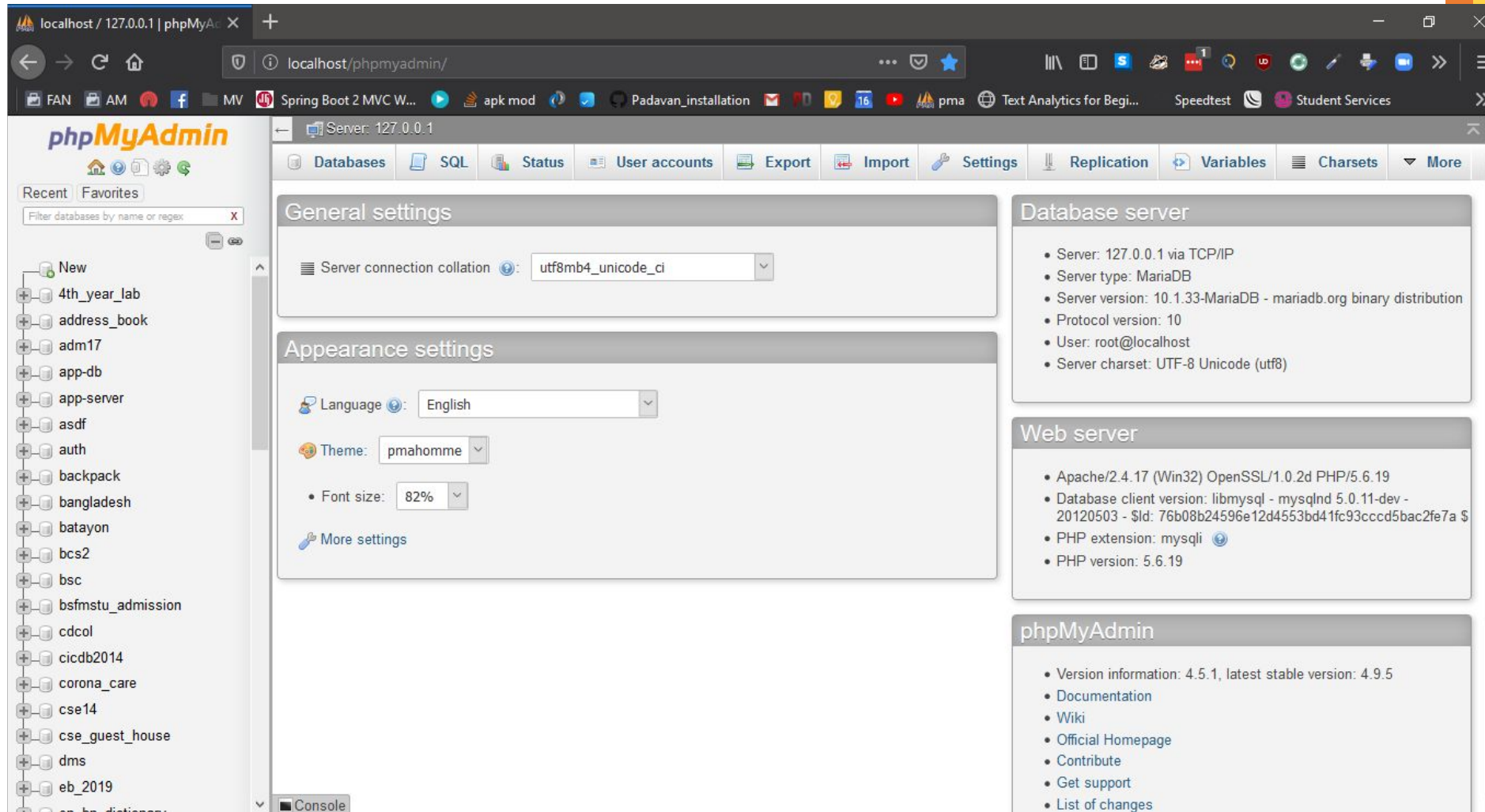
1. Database Software Installation



1. Database Software Installation



1. Database Software Installation



The screenshot displays the phpMyAdmin web interface in a browser window. The address bar shows 'localhost/phpmyadmin/'. The interface includes a sidebar with a list of databases, a top navigation bar with tabs like 'Databases', 'SQL', 'Status', 'User accounts', 'Export', 'Import', 'Settings', 'Replication', 'Variables', 'Charsets', and 'More'. The main content area is divided into several panels:

- General settings:** Shows 'Server connection collation' set to 'utf8mb4_unicode_ci'.
- Appearance settings:** Shows 'Language' set to 'English', 'Theme' set to 'pmahomme', and 'Font size' set to '82%'. A 'More settings' link is also present.
- Database server:** Lists server details:
 - Server: 127.0.0.1 via TCP/IP
 - Server type: MariaDB
 - Server version: 10.1.33-MariaDB - mariadb.org binary distribution
 - Protocol version: 10
 - User: root@localhost
 - Server charset: UTF-8 Unicode (utf8)
- Web server:** Lists web server details:
 - Apache/2.4.17 (Win32) OpenSSL/1.0.2d PHP/5.6.19
 - Database client version: libmysql - mysqlnd 5.0.11-dev - 20120503 - \$Id: 76b08b24596e12d4553bd41fc93cccd5bac2fe7a \$
 - PHP extension: mysqli
 - PHP version: 5.6.19
- phpMyAdmin:** Lists version and resource information:
 - Version information: 4.5.1, latest stable version: 4.9.5
 - Documentation
 - Wiki
 - Official Homepage
 - Contribute
 - Get support
 - List of changes

<http://localhost/phpmyadmin>



localhost / 127.0.0.1 | phpMyAdmin

localhost/phpmyadmin/

Server: 127.0.0.1

Databases SQL Status User accounts Export Import Settings Replication Variables Charsets More

General settings

Server connection collation: utf8mb4_unicode_ci

Appearance settings

Language: English

Theme: pmahomme

Font size: 82%

[More settings](#)

Database server

- Server: 127.0.0.1 via TCP/IP
- Server type: MariaDB
- Server version: 10.1.33-MariaDB - mariadb.org binary distribution
- Protocol version: 10
- User: root@localhost
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Web server

- Apache/2.4.17 (Win32) OpenSSL/1.0.2d PHP/5.6.19
- Database client version: libmysql - mysqlnd 5.0.11-dev - 20120503 - \$Id: 76b08b24596e12d4553bd41fc93cccd5bac2fe7a \$
- PHP extension: mysqli
- PHP version: 5.6.19

phpMyAdmin

- Version information: 4.5.1, latest stable version: 4.9.5
- [Documentation](#)
- [Wiki](#)
- [Official Homepage](#)
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- [List of changes](#)

Recent Favorites

Filter databases by name or regex: X

- New
- 4th_year_lab
- address_book
- adm17
- app-db
- app-server
- asdf
- auth
- backpack
- bangladesh
- batayon
- bcs2
- bcs
- bsfmstu_admission
- cdcol
- cicdb2014
- corona_care
- cse14
- cse_guest_house
- dms
- eb_2019

Console



Loading Sample Database

Demo



Loading Sample Database

Table: Instructor

ID	name	dept_name	salary
10101	Srinivasan	Comp. Sci.	65,000.00
12121	Wu	Finance	90,000.00
15151	Mozart	Music	40,000.00
22222	Einstein	Physics	95,000.00
32343	El Said	History	60,000.00
33456	Gold	Physics	(NULL)
45565	Katz	Comp. Sci.	75,000.00
58583	Califieri	History	62,000.00
76543	Singh	Finance	80,000.00
76766	Crick	Biology	72,000.00
83821	Brandt	Comp. Sci.	92,000.00
98345	Kim	Elec. Eng.	80,000.00

Table: Course

course_id	title	dept_name	credits
BIO-101	Intro. to Biology	Biology	4
BIO-301	Genetics	Biology	4
BIO-399	Computational Biology	Biology	3
CS-101	Intro. to Computer Science	Comp. Sci.	4
CS-190	Game Design	Comp. Sci.	4
CS-315	Robotics	Comp. Sci.	3
CS-319	Image Processing	Comp. Sci.	3
CS-347	Database System Concepts	Comp. Sci.	3
EE-181	Intro. to Digital Systems	Elec. Eng.	3
FIN-201	Investment Banking	Finance	3
HIS-351	World History	History	3
MU-199	Music Video Production	Music	3
PHY-101	Physical Principles	Physics	4

Run basic SQL query

Demo



SQL

- Structures Query Language
- developed at IBM by **Donald D. Chamberlin** and **Raymond F. Boyce** for their database software “System R” in 1970
- **Oracle** made it popular.
- By 1986, ANSI and ISO officially adopted the SQL and standard Language for RDBMS.



SQL



ORACLE®



SYBASE®
An SAP Company



INGRES™



HyperSQL

H2

Informix®



Basic SQL Query

- For getting all data from a specific table

SELECT * FROM <table_name>



SELECT * FROM instructor

ID	name	dept_name	salary
10101	Srinivasan	Comp. Sci.	65000.00
12121	Wu	Finance	90000.00
15151	Mozart	Music	40000.00
22222	Einstein	Physics	95000.00
32343	El Said	History	60000.00
33456	Gold	Physics	87000.00
45565	Katz	Comp. Sci.	75000.00
58583	Califieri	History	62000.00
76543	Singh	Finance	80000.00
76766	Crick	Biology	72000.00
83821	Brandt	Comp. Sci.	92000.00
98345	Kim	Elec. Eng.	80000.00

Basic SQL Query

- Showing only selected fields

```
SELECT  
    field1,field2,...fieldn  
FROM  
    <table_name>
```



```
SELECT name, dept_name FROM instructor
```

name	dept_name
Srinivasan	Comp. Sci.
Wu	Finance
Mozart	Music
Einstein	Physics
El Said	History
Gold	Physics
Katz	Comp. Sci.
Califieri	History
Singh	Finance
Crick	Biology
Brandt	Comp. Sci.
Kim	Elec. Eng.

Basic SQL Query

- Filtering data based on condition

```
SELECT  
    field1,field2,...fieldn  
FROM  
    <table_name>  
WHERE  
    <condition>
```



```
SELECT * FROM instructor  
WHERE dept_name='Comp. Sci.'
```

	ID	name	dept_name	salary
e	10101	Srinivasan	Comp. Sci.	65000.00
e	45565	Katz	Comp. Sci.	75000.00
e	83821	Brandt	Comp. Sci.	92000.00

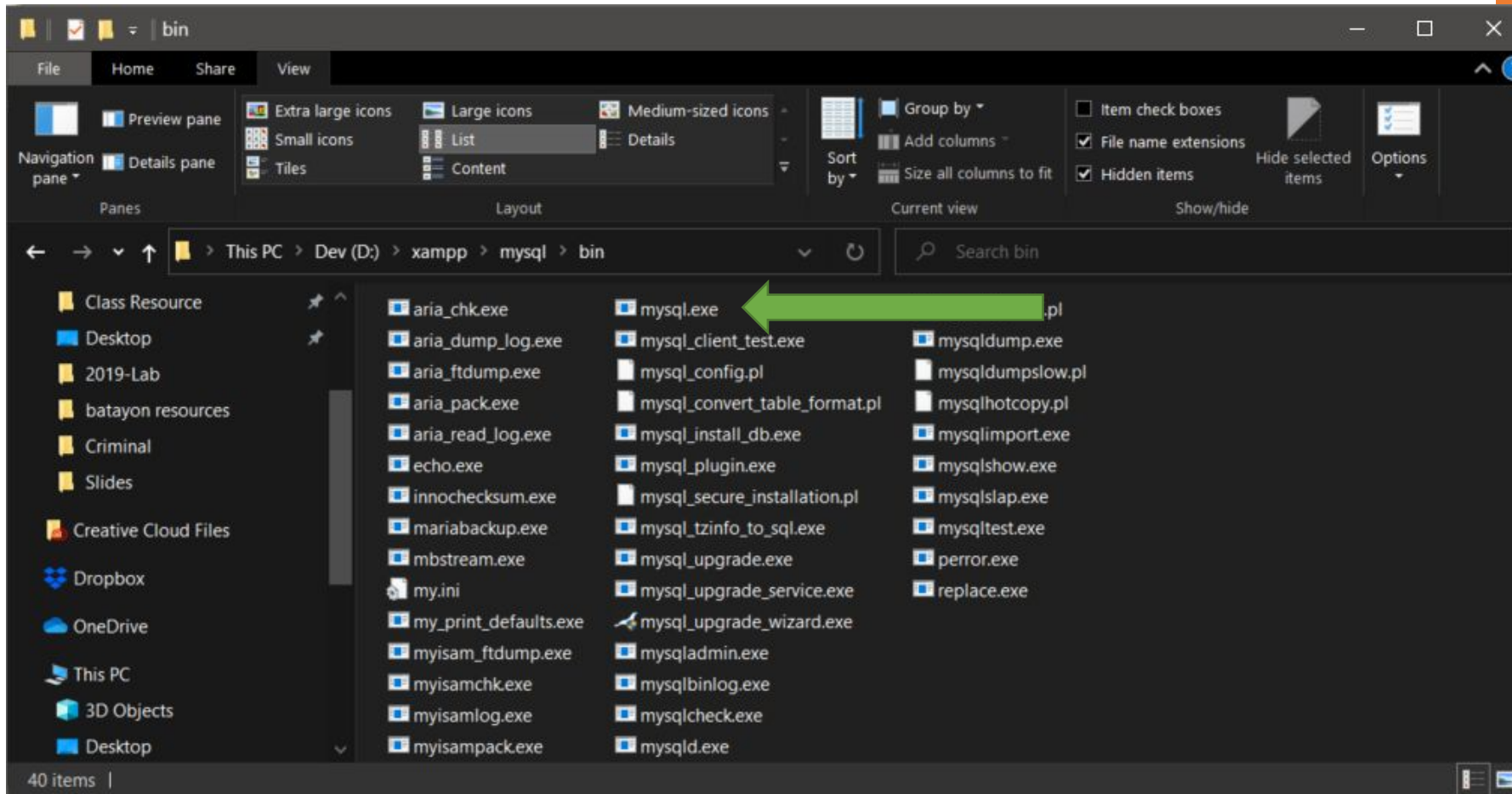


Some Additional Tools



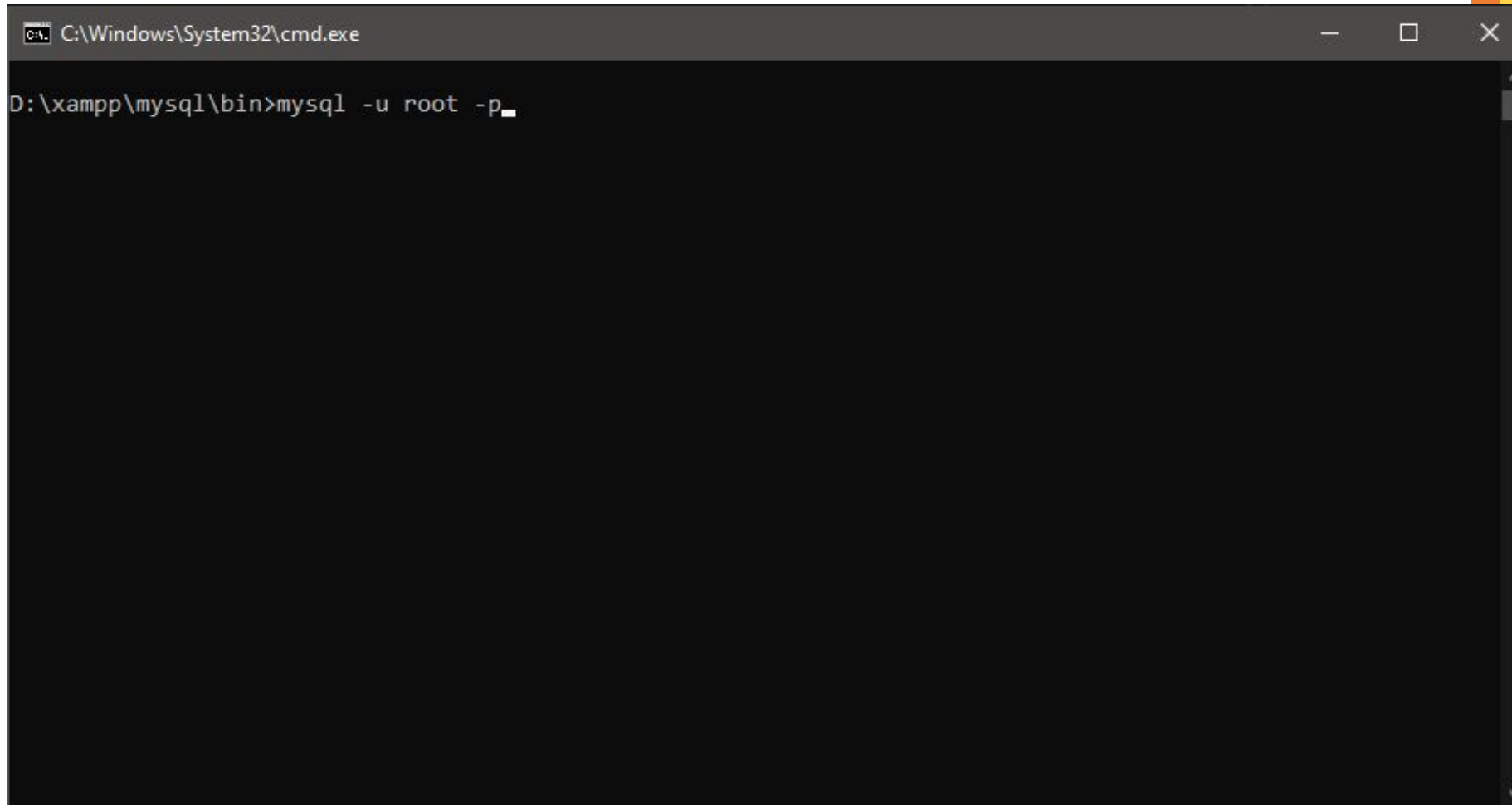
5. Locate mysql within XAMPP

C:\xampp\bin\mysql\bin



6. Using command prompt run mysql

```
mysql -u root -p
```



A screenshot of a Windows Command Prompt window. The title bar shows 'C:\Windows\System32\cmd.exe'. The command prompt shows the directory 'D:\xampp\mysql\bin' and the command 'mysql -u root -p' being entered. The cursor is at the end of the command.



6. Using command prompt run mysql

```
mysql -u root -p
```

```
C:\Windows\System32\cmd.exe - mysql -u root -p

D:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 225
Server version: 10.1.33-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> _
```



7. Run some query on the db server

- Show available databases

```
show databases;
```

- Open a database

```
use <database_name>;
```

- Show tables on opened database

```
show tables;
```



7. Run some query on the db server

- Show schema of a table

```
describe <table_name>;
```

```
desc <table_name>;
```

☐ short form

- Show records from a database

```
select * from <table_name>;
```



7. Run some query on the db server

```
show databases;
```

```
use <database_name>;
```

```
show tables;
```

□ short form

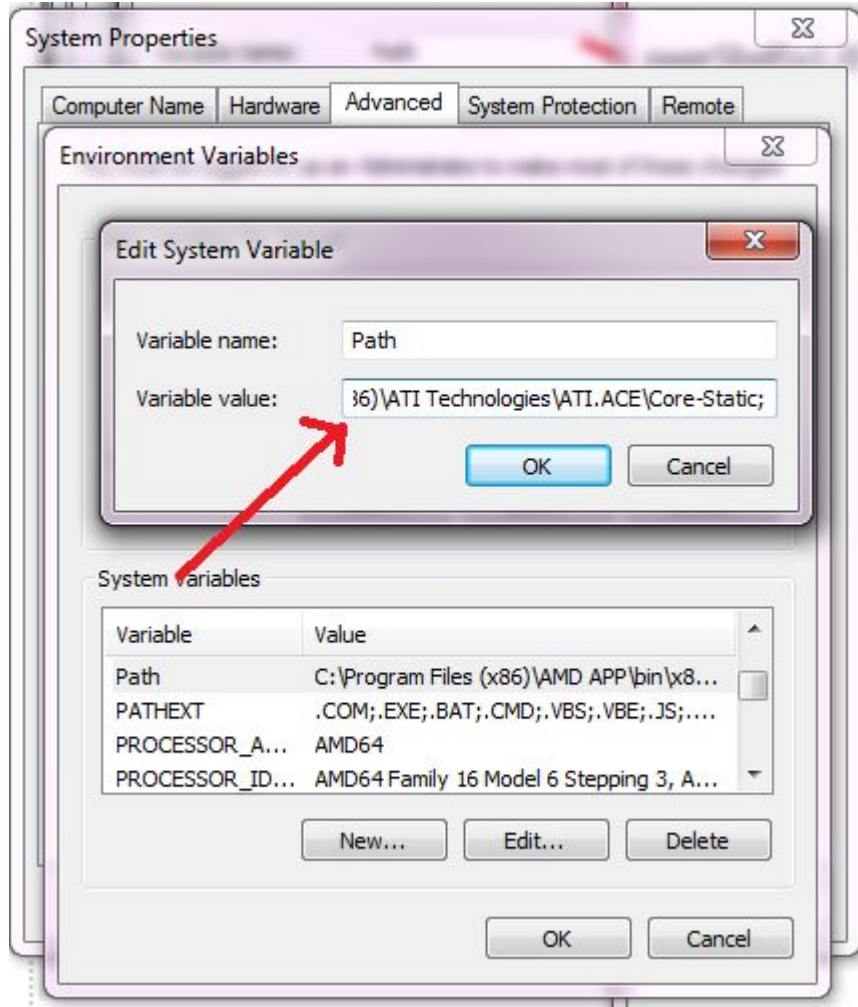
```
describe <table_name>;
```

```
desc <table_name>;
```

```
select * from <table_name>;
```



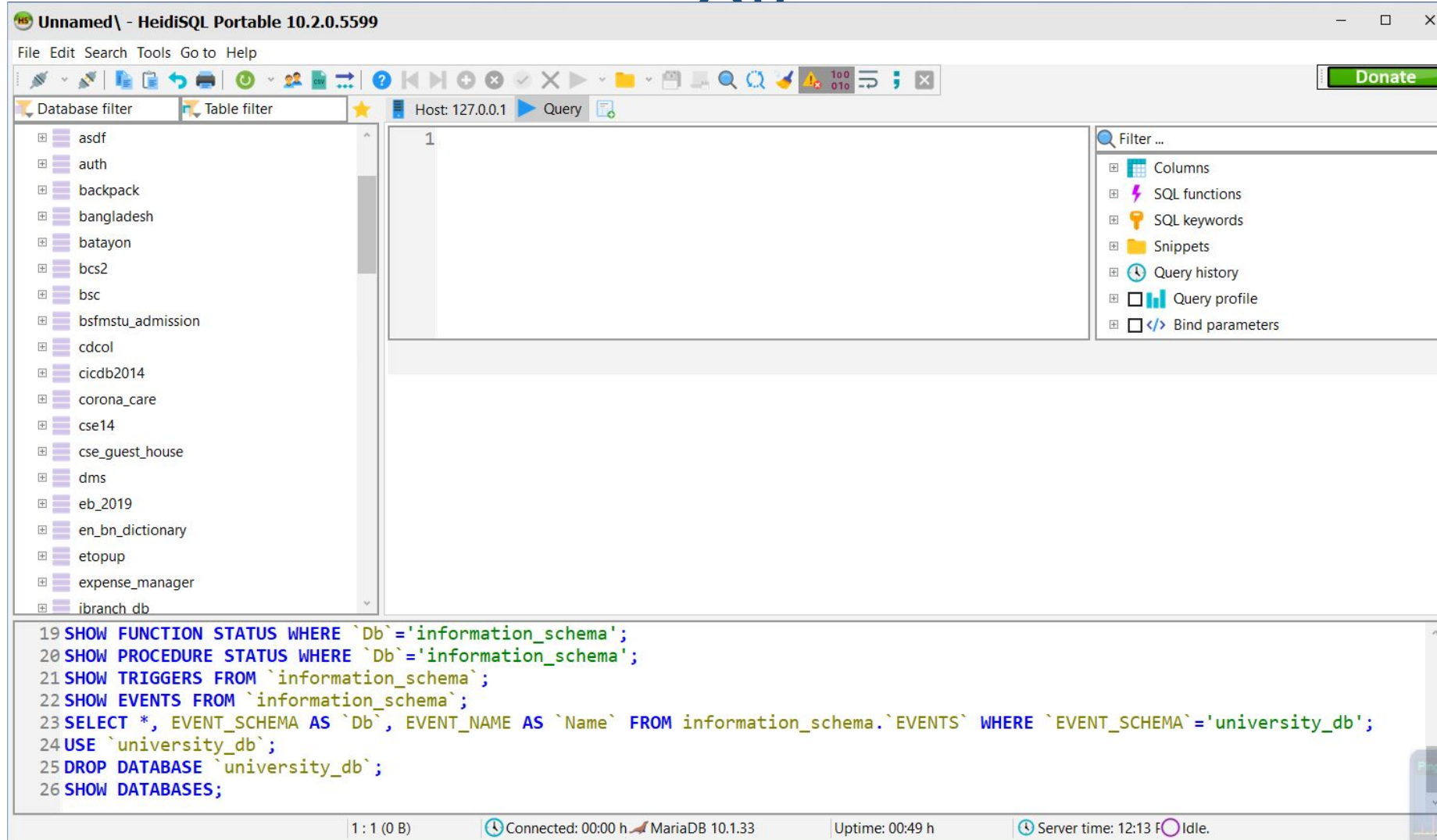
8. Add mysql to windows env path for easy access



Add your mysql path
c:\wamp\bin\mysql\mysql###\bin;
At the end of the Variable value

Test if everithing is OK
Open comand prompt anywhere and type
“mysql”
Without the quotation mark

I don't like mysql command prompt



8/27/23 12:34 PM



Demo.



End.

