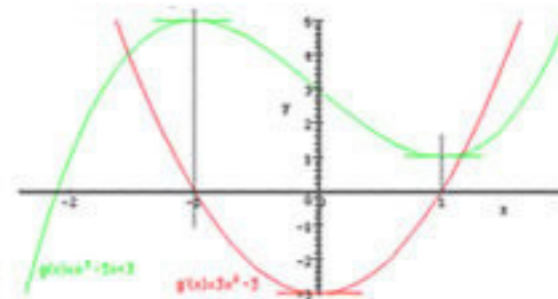


MySQL GUI Tools

MySQL & PHP

Jeff Kopmanis, *Mathematics*
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University of Michigan
M Mathematics



Command Line Utility

```
Terminal — mysql — ttyp1 — 90x24
mysql> select * from machines where hostname='m0142';
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | e_tag | ip | hostname | umtag | govt | room | building | descri
ption | make_t | model | serial | contact | cost | contract | numcpus |
cpu_t | cpu_speed | ram | hd | os_t | lpdefault | installed | decomm | inv_scan | online
| updated | flag | purch | display | disp_umtag | notes |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 454 | 000d935af8fe | m0142 | 141.211.61.142 | NULL | 0 | 3844 | EH | Apple
iMac G5 | APPLE | iMac-G5-1.8GHz | W844932GPNZ | krhea | 1900.00 | NULL | 1 |
PPC-G5 | 1800 | 512 | 80 | OSX | NULL | NULL | 0 | 0 | ?
| 2005-03-29 11:13:26 | 0000 | NULL | N | NULL | NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> █
```

Crowded

Command Line Utility

```
Terminal — mysql — ttyp1 — 90x24
mysql> select * from machines where hostname='m0142';
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | e | s | a | n | t | a | d | d | u | m | t | a | g | g | o | v | t | r | o | o | m | b | u | i | l | d | i | n | g | d | e | s | c | r | i | p | t | i | o | n | m | a | k | e | _ | t | m | o | d | e | l | s | e | r | i | a | l | c | o | n | t | a | c | t | c | o | s | t | c | o | n | t | r | a | c | t | n | u | m | c | p | u | s | c | p | u | _ | t | c | p | u | _ | s | p | e | e | d | r | a | m | h | d | o | s | _ | t | l | p | d | e | f | a | u | l | t | i | n | s | t | a | l | l | e | d | d | e | c | o | m | m | i | n | v | _ | s | c | a | n | o | n | l | i | n | e | u | p | d | a | t | e | d | f | l | a | g | p | u | r | c | h | d | i | s | p | l | a | y | d | i | s | p | _ | u | m | t | a | g | n | o | t | e | s |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 454 | 000d935af8fe | m0142 | 141.211.61.142 | NULL | 0 | 3844 | EH | Apple iMac G5 | APPLE | iMac-G5-1.8GHz | W844932GPNZ | krhea | 1900.00 | NULL | 1 | PPC-G5 | 1800 | 512 | 80 | OSX | NULL | NULL | 0 | 0 | ? | 2005-03-29 11:13:26 | 0000 | NULL | N | NULL | NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

Crowded

Not suited well for wide results

GUI Tools

- **Multi-platform**

GUI Tools

- **Multi-platform**
 - *Microsoft Windows*

GUI Tools

- **Multi-platform**
 - *Microsoft Windows*
 - *Linux (RedHat, SuSE, Debian, Others)*

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- **A “Workbench” for SQL tasks**

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GUI Tools

- **Multi-platform**
 - *Microsoft Windows*
 - *Linux (RedHat, SuSE, Debian, Others)*
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- **A “Workbench” for SQL tasks**
- **STANDARD!**
- **Open Source - FREE!**

MySQL Administrator

MySQL Administrator

- GUI Administrative Tool

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- Open Source - Freely available

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 - *Linux*
 - *MacOSX*

MySQL Administrator

Demo

MySQL Query Browser

MySQL Query Browser

The screenshot displays the MySQL Query Browser interface. The title bar indicates the connection is to 'root@localhost:3307 / world'. The menu bar includes File, Edit, View, Bookmarks, Tools, and Help. The query editor contains the following SQL query:

```
SELECT C.Country, C.Language, C.IsOfficial FROM CountryLanguage C
WHERE C.IsOfficial = 'T'
ORDER BY C.Country
```

The main area shows a table with 238 rows. The columns are Country, Language, and IsOfficial. The data is sorted by Country. The right sidebar contains a Schemata panel with a search bar and a list of databases: bugs, mysql, test, vbmysql, vbmysqlforums, and weblns. Below the Schemata panel is a Params panel with folders for Global Params, Local Params, and Dynamic Params. The bottom status bar shows '238 rows in set.' and buttons for Edit, Apply Changes, Discard Changes, First, Last, and Search.

Country	Language	IsOfficial
BLZ	English	T
BMU	English	T
BOL	Spanish	T
BOL	Ketġua	T
BOL	Aimará	T
BRA	Portuguese	T
BRB	English	T
BRN	Malay	T
BTN	Dzongkha	T
CAN	English	T
CAN	French	T
CCK	English	T
CHE	German	T
CHE	French	T
CHE	Italian	T
CHE	Romansh	T
CHI	Spanish	T

MySQL Query Browser

The screenshot displays the MySQL Query Browser interface. At the top, the title bar reads "MySQL Query Browser - root@localhost:3306 / forum". The menu bar includes File, Edit, View, Query, Script, Tools, and Help. The query editor contains the following SQL query:

```
SELECT p.user_id, p.username, p.user_password, p.user_email
FROM phpbb_users p
WHERE mod(p.user_id*2, 3)<2
```

Below the query editor is a toolbar with buttons for Go back, Next, Refresh, Execute, and Stop. A second toolbar contains Transaction, Explain, Compare, and various SQL keywords (SELECT, FROM, WHERE, GROUP, HAVING, ORDER, SET). The main area shows two resultsets. Resultset 1 (left) contains 784 rows, and Resultset 2 (right) contains 523 rows. Both resultsets display columns for user_id, username, and user_password. The right sidebar shows a "Bookmarks" section with a tree view of saved queries, including folders like "Compare Test" and "Test Folder". Below the bookmarks is a "Syntax" section with tabs for Functions, Params, and Trx, and a list of categories like "Data Manipulation" and "Data Definition".

user_id	username	user_password
-1	Anonymous	
2	mike	7bf0dd4e99d9f
3	Ulli	80321d141d77
4	tox	ffb9a9d5927ae
5	helio	9656a12edd4e
6	squashee	9896bd2ef003
7	weyrick	bcea68d171eE
8	bcrockett	097676d2b557
9	Nick	2eeefea9fc4b1
10	marcoscaval	acf5d4870452f
11	spaceman	6cb2f82fc664c
12	vit	418e3b3beff23
13	leifbk	82baf04013d9f
14	Heartlcy	85762a434edC
15	madf	cf26b5d121f6f
16	calevans	9102a8640000c
17	Souldog	1f32975f3cfd6!
18	dhanson	d0199f51d272!
19	rubyrock	84c413b060ab
20	kmichal	d8578edf8458!

MySQL Query Browser

MySQL Table Editor

Table Name: Database: Comment:

Columns and Indices | Table Options | Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
Id	INTEGER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
Name	CHAR(35)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input type="checkbox"/> UNICODE		
Country	CHAR(3)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input type="checkbox"/> UNICODE		
District	CHAR(20)	<input checked="" type="checkbox"/>		<input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input type="checkbox"/> UNICODE		
Population	INTEGER	<input checked="" type="checkbox"/>		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	0	

Indices | Foreign Keys | Column Details

PRIMARY

Index Settings

Index Name:

Index Kind:

Index Type:

Index Columns (Use Drag'n'Drop):
Id
District

Apply Changes | Discard Changes | Close

MySQL Query Browser

The screenshot displays the MySQL Query Browser interface. The title bar reads "MySQL Query Browser - root@192.168.1.10:3306". The menu bar includes "File", "Edit", "View", "Query", "Script", "Tools", and "Help". The main query area contains the SQL statement: `SELECT * FROM world.City C`. Below the query area is a toolbar with buttons for "Go back", "Next", "Refresh", "Execute", "Continue", "Step Over", "Step Into", "Run until Return", and "Stop". The interface is divided into two main panes. The left pane, titled "Script 2", shows a MySQL dump script for the 'City' table, including the table structure and data dumping instructions. The right pane, titled "Schemata", shows a tree view of the database schema, with the 'mysql' database selected. The status bar at the bottom left indicates "1: 51".

```
1 # MySQL dump 9.07
2 #
3 # Host: localhost   Database: world
4 #####-
5 # Server version 4.0.10-gamma-log
6 #
7 #
8 # Table structure for table 'City'
9 #
10
11 DROP TABLE IF EXISTS City;
12 CREATE TABLE City (
13   ID int(11) NOT NULL auto_increment,
14   Name char(35) NOT NULL default '',
15   CountryCode char(3) NOT NULL default '',
16   District char(20) NOT NULL default '',
17   Population int(11) NOT NULL default '0',
18   PRIMARY KEY (ID)
19 ) TYPE=MyISAM;
20
21 #
22 # Dumping data for table 'City'
23 #
24
```

CocoaMySQL

Demo

Dynamic Web Pages

MySQL & PHP



“Why would I want to
use a Dynamic page!?”

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- When content has to be updated frequently

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- When content has to be updated frequently
- When content is interdependent

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- When you want a page to be configurable

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- When other software has to get at the data

“Why would I want to use a Dynamic page!?”

- When content has to be updated frequently
- When content is interdependent
- When you want a page to be configurable
- When other software has to get at the data
- *What's your idea for a dynamic page?*

Anatomy of a Dynamic Web Page

I. Submit a URL to your browser



Safari
Browser



<http://www.umich.edu/somepage.php>

Anatomy of a Dynamic Web Page

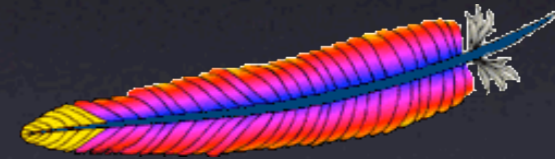
2. Browser sends request to web server



Safari
Browser



<http://www.umich.edu/somepage.php>



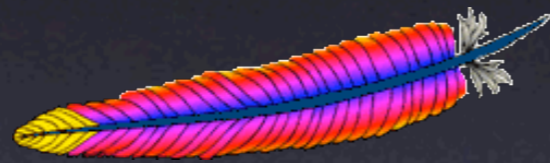
Web
Server

Anatomy of a Dynamic Web Page

3. Web server runs a script



Safari
Browser



Web
Server



somepage.php



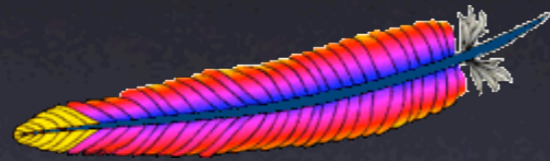
Script
Language

Anatomy of a Dynamic Web Page

4. Script makes SQL Queries for data



Safari
Browser



Web
Server



Script
Language



`SELECT * FROM dtable`



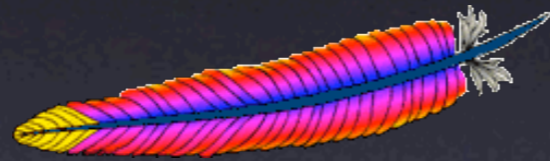
SQL
Database

Anatomy of a Dynamic Web Page

5. Database returns data to script for processing



Safari
Browser



Web
Server



Script
Language

123, Jeff
456, Mary
789, Dave



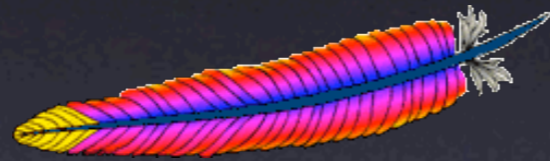
SQL
Database

Anatomy of a Dynamic Web Page

6. Script prepares HTML and sends it to the Web Server



Safari
Browser



Web
Server



Script
Language



```
...<td>123</td><td>Jeff</td></tr><tr><td>456...
```



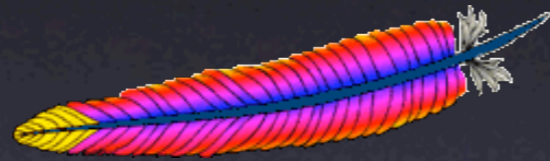
SQL
Database

Anatomy of a Dynamic Web Page

7. Web server finishes processing and sends stream to your browser



Safari
Browser



Web
Server



Script
Language



SQL
Database

```
...<td>123</td><td>Jeff</td></tr><tr><td>456...
```

Anatomy of a Dynamic Web Page

8. Your browser renders the HTML and displays the formatted results



Safari
Browser

A screenshot of a web browser window showing a faculty directory page. The browser's address bar displays the URL `http://www/people/facultyAlpha.php`. The page title is "UM Mathematics: Faculty-Alpha". The page content includes a navigation menu on the left, a header with the University of Michigan Mathematics logo and a graph, and a main section titled "Faculty Directory (Alphabetical Listing)". The directory table lists faculty members with their names, titles, office numbers, phone numbers, and email addresses.

UM Mathematics: Faculty-Alpha

MathREQ News Amazon DEV Math Mentor Astro Purch Autos

UM Mathematics: Faculty-...

University of Michigan
Mathematics

Faculty Directory (Alphabetical Listing) [Research Area Listing](#)

All offices are in East Hall unless otherwise noted.

Faculty	Title	Office (East Hall)	Phone (734)	Email
Alibegovic, Emina	Post-Doc T.H. Hildebrandt Assistant Professor	1825	6475518	eminaa
Arakelian, Irina	Lecturer III	3859	9361775	arakel
Artin, Michael	Gehring Visiting Professor	4076	9360155	artin
Baik, Jinho	Assistant Professor	4071	7632150	baik
Balbas, Jorge	Post-Doc VIGRE Assistant Professor	4835	7646495	jbalbas
Barannyk, Lyudmyla	Post-Doc Assistant Professor	4855	7646420	barannyk
Barrett, David E.	Professor	5838	763-3932	barrett
Barvinok, Alexander	Professor	1858	763-0294	barvinok
Bass, Hyman	Professor	3864	9369968	hybass
Bayraktar, Erhan	Post-Doc T.H. Hildebrandt Assistant Professor	4827	9369973	erhan

Some PHP Examples



hello.php

```
<?  
print "Hello, World!";  

```

hello.php

```
<?  
print "Hello, World!".  
?>
```

**WORLD'S SIMPLEST
PROGRAM**

hello_vars.php

```
<center>
<?
$hello = "Hello";
$world = "World";
print $hello.", ".$world."<br>";
?>
</center>
<hr>
```

hello_vars.php

```
<center>
<?
$hello = "hello";
$world = "world";
print $hello." " $world."<br>";
</center>
</pre>
```

**WORLD'S SECOND
SIMPLEST PROGRAM**

db.php

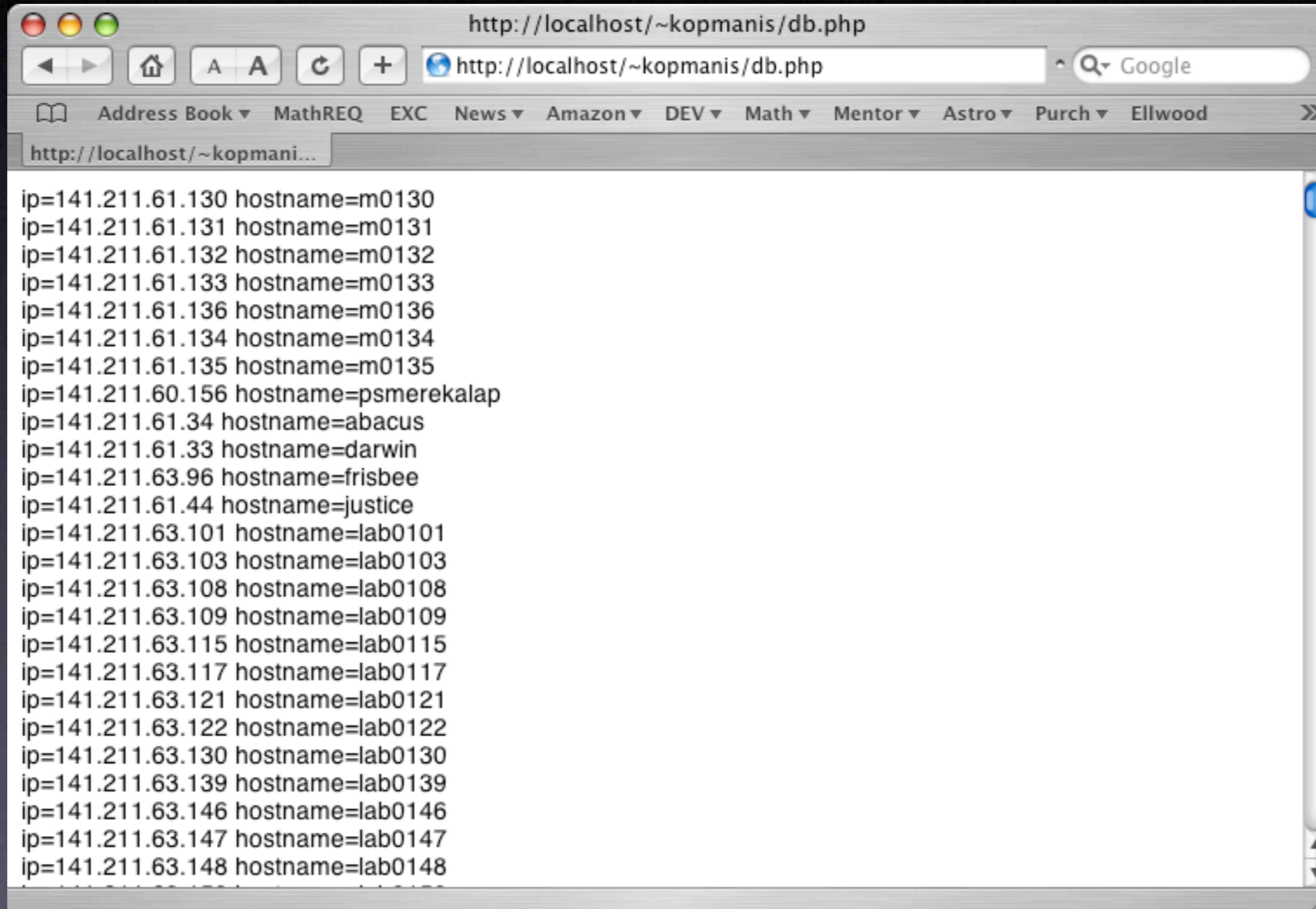
```
<?
#####
# Make Database connection
$db = mysql_connect("localhost","root","");
mysql_select_db("inventory",$db);

$sql = "SELECT ipaddr,hostname FROM machines";
$result = mysql_query($sql);

while( $datarow = mysql_fetch_array($result) ) {
    # 2 print statements for prettiness!
    print "ip=".$datarow['ipaddr'];
    print "    hostname=".$datarow['host']."<br>\n";
}

mysql_close($db);
?>
```

db.php



The screenshot shows a web browser window with the address bar containing `http://localhost/~kopmanis/db.php`. The browser's address bar also shows a search engine (Google) and a list of bookmarks including Address Book, MathREQ, EXC, News, Amazon, DEV, Math, Mentor, Astro, Purch, and Ellwood. The main content area of the browser displays the output of the PHP script, which is a list of IP addresses and hostnames:

```
ip=141.211.61.130 hostname=m0130
ip=141.211.61.131 hostname=m0131
ip=141.211.61.132 hostname=m0132
ip=141.211.61.133 hostname=m0133
ip=141.211.61.136 hostname=m0136
ip=141.211.61.134 hostname=m0134
ip=141.211.61.135 hostname=m0135
ip=141.211.60.156 hostname=psmerekalap
ip=141.211.61.34 hostname=abacus
ip=141.211.61.33 hostname=darwin
ip=141.211.63.96 hostname=frisbee
ip=141.211.61.44 hostname=justice
ip=141.211.63.101 hostname=lab0101
ip=141.211.63.103 hostname=lab0103
ip=141.211.63.108 hostname=lab0108
ip=141.211.63.109 hostname=lab0109
ip=141.211.63.115 hostname=lab0115
ip=141.211.63.117 hostname=lab0117
ip=141.211.63.121 hostname=lab0121
ip=141.211.63.122 hostname=lab0122
ip=141.211.63.130 hostname=lab0130
ip=141.211.63.139 hostname=lab0139
ip=141.211.63.146 hostname=lab0146
ip=141.211.63.147 hostname=lab0147
ip=141.211.63.148 hostname=lab0148
```

db_form.php

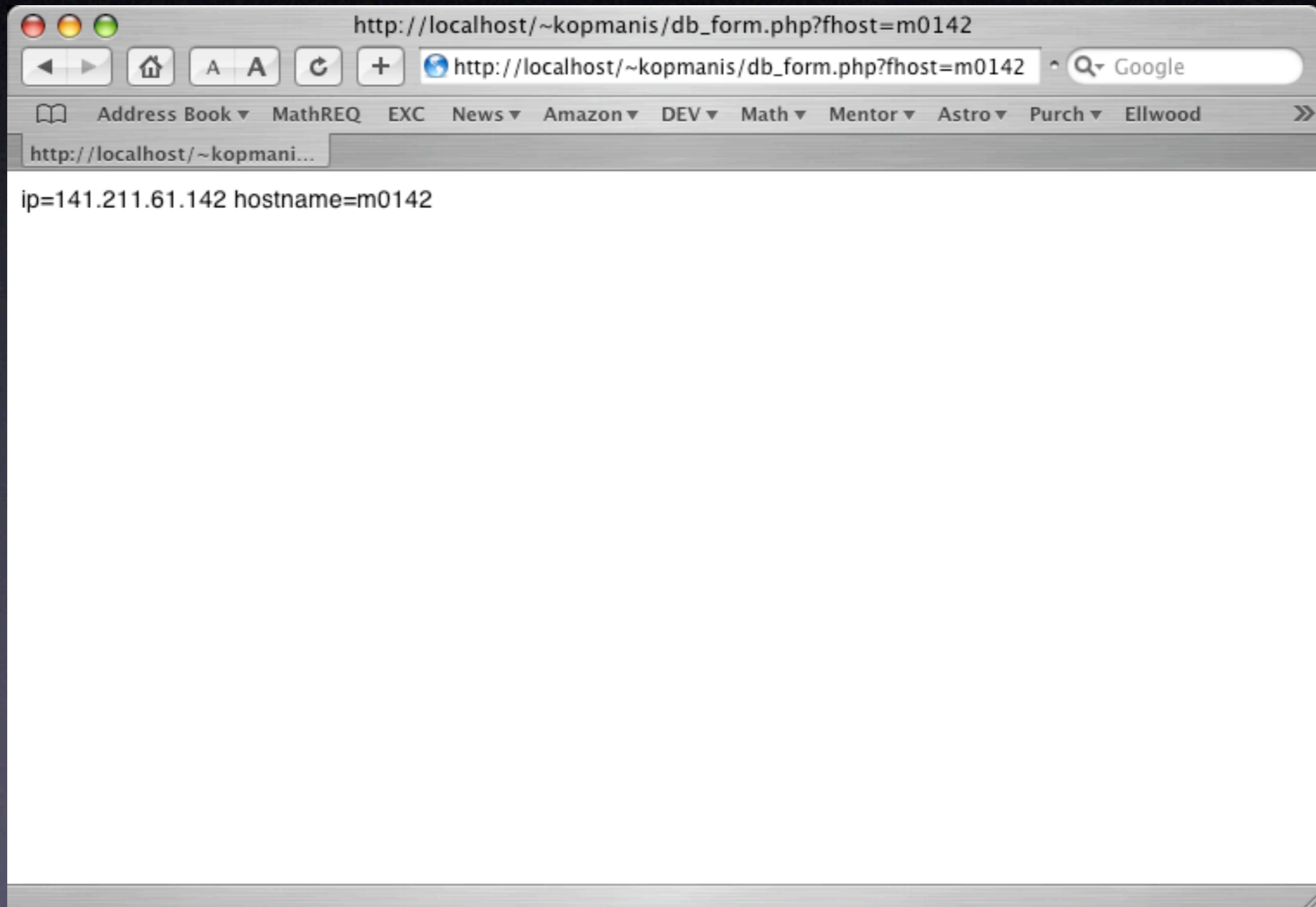
```
<?
#####
# Make Database connection
$db = mysql_connect("localhost","root","");
mysql_select_db("inventory",$db);

# shows how concatenation can be used to build strings
$sql = "SELECT ipaddr,hostname FROM machines";
$sql .= " WHERE hostname='". $_GET['fhost']."'";
$result = mysql_query($sql);

while( $datarow = mysql_fetch_array($result) ) {
    print "ip=".$datarow['ipaddr'];
    print "  hostname=".$datarow['hostname']."<br>\n";
}

mysql_close($db);
?>
```

db_form.php



all_in_one.php

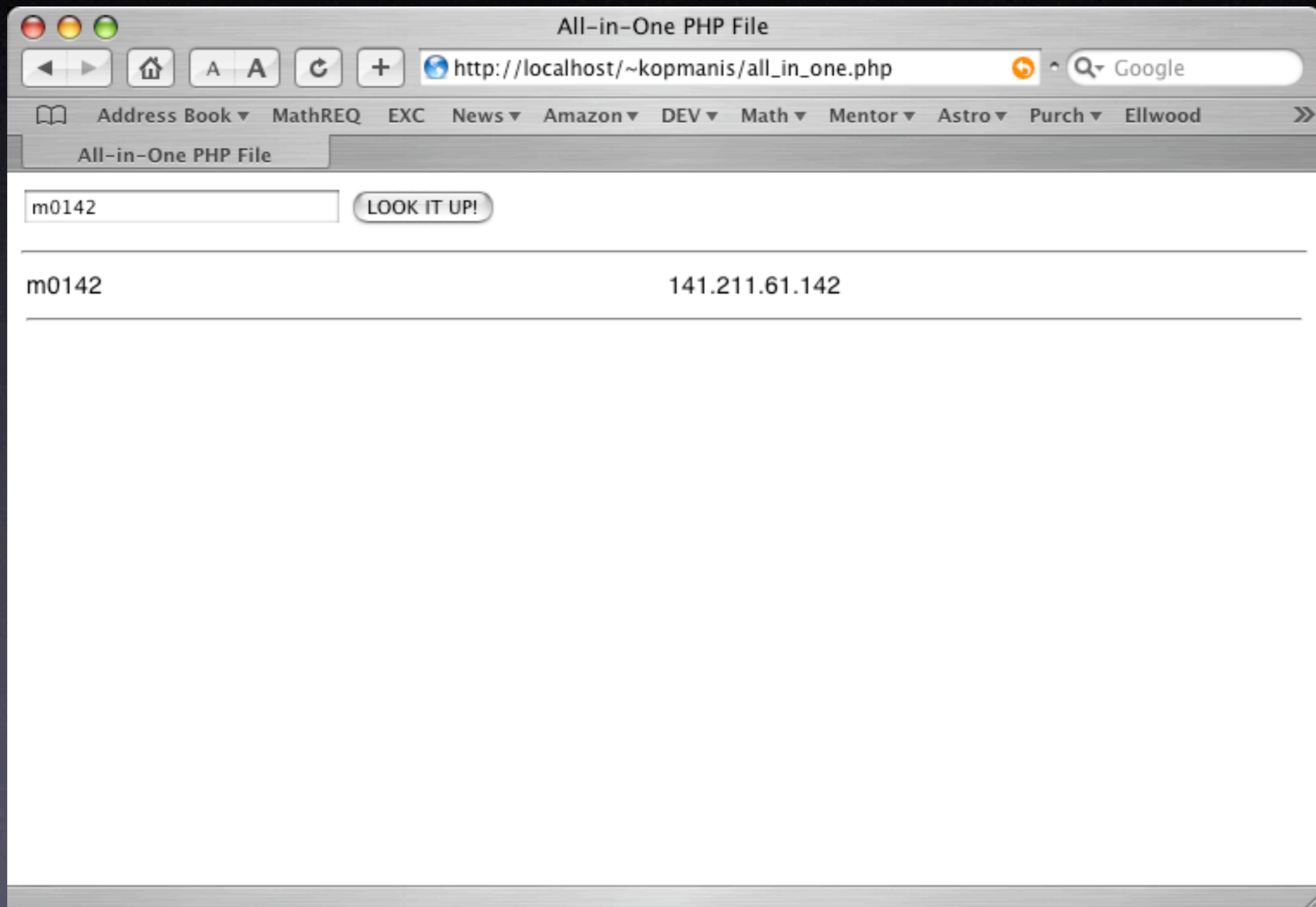
```
<html>
<head><title>All-in-One PHP File</title></head>
<form method=post action="all_in_one.php">
<input type=text name="fhost" value='<?=$_POST[fhost]?' size=25 maxlength=25>
<input type=submit value=' LOOK IT UP! '>
</form>
<hr>
<table width=100%>
<?
#####
# Make Database connection
$db = mysql_connect("localhost","root","");
mysql_select_db("inventory",$db);

$sql = "SELECT hostname,ipaddr FROM machines WHERE hostname='".$$_POST[fhost]."'";
$result = mysql_query($sql);

while( $datarow = mysql_fetch_array($result) ) {
    print "<tr><td width=50%>$datarow['hostname']</td><td width=50%>";
    print $datarow['ipaddr'];
    print "</td></tr>\n";
}
    print "<tr><td colspan=2><hr></td></tr>\n";

?>
</table>
</html>
```

all_in_one.php



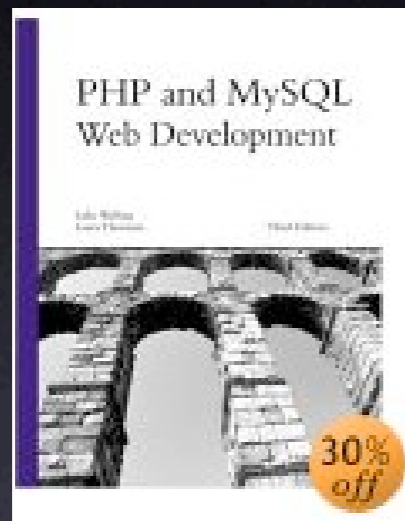
PHP-enabled Sites

Demo

Online Resources

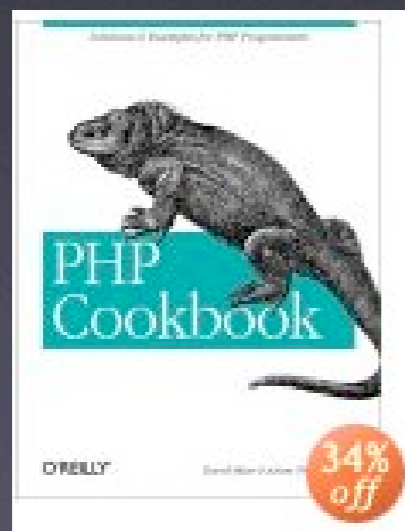
- <http://www.mysql.com>
MySQL Home
- <http://serverlogistics.com/mysql.php>
Complete MySQL
- <http://www.php.net/>
PHP Home page
- <http://versiontracker.com>
Where to find CocoaMySQL

Books



PHP and MySQL Web Development (3rd Edition)

Luke Welling, Laura Thompson
ISBN: 0672326728



PHP Cookbook

David Sklar, Adam Trachtenberg
ISBN: 1565926811

Q & A

Thanks for coming!

University of Michigan
Mathematics

