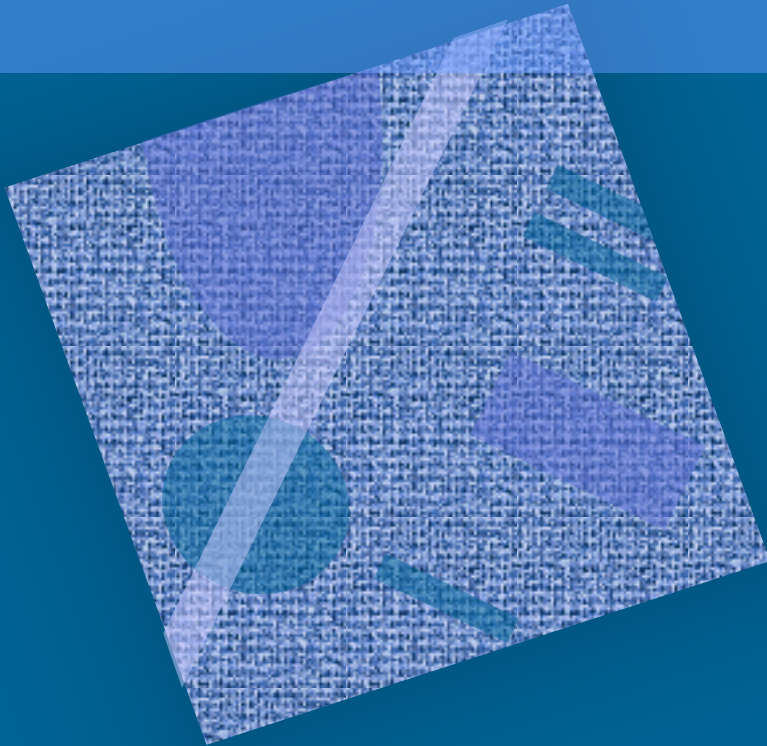


# COMS 469: Interactive Media II



# Agenda

- Review
- Relational Databases
  - MySQL
  - PHP & MySQL

# Review

- Topic
  - Files and Stored Data
    - Unix OS permissions
    - PHP facilities for working with files
      - Reading data from files
      - Writing data to files
  - Content Management Example

# Content Management Site



widgets.php



adminlogin.php



authentication.php



header.inc



news.php



news.txt



addnews.php



adminheader.inc



footer.inc



products.php



products.txt



addproduct.php



footer.inc



links.php



links.txt



addurl.php



# header.inc

```

header - Notepad
File Edit Format View Help
<html>
<head>
<title>Widgets International</title>
</head>
<style type="text/css">
body {background-color: #ffffff;}

.content {
background-color: #f0f0f0;
padding-top: 10px; padding-right: 10px; padding-bottom: 10px; padding-left: 10px; margin-top: 10px; margin-right: 10px; margin-bottom: 10px; margin-left: 10px;}

a:link {color: #005577; text-decoration: none;}
a:visited {color: #005577; text-decoration: none;}
a:hover {color: #bcbcbc; text-decoration: none;}

td {
font-family: verdana, arial, helvetica, sans-serif; font-size: 13px; vertical-align: top;}

.title {
font-size: 24px; font-weight: normal; color: #ffffff; margin-top: 5px; margin-bottom: 5px; margin-left: 20px; padding-top: 5px; padding-bottom: 5px;}

h2 {font-size: 20px; font-weight: normal}

```



# Widgets International

## What's New and Happening

**7 January 2003**  
 Widgets International is successful in outsourcing all US jobs. All Widgets International's manufacturing now takes place *off-shore*, where we can exploit the local labor force and pollute the environment without impunity.

**30 March 2004**  
 Widgets International names a new CIO. Iggy Pop will take over operations of the Widgets International information network in May of 2004. Mr. Pop comes to Widgets with over 25 years of network management, data mining, and pointless exploitation of his own body. Widgets International welcomes Mr. Pop to its staff and invites anyone who has comments about this appointment to write it on a piece of paper and then stick it up their ass. 31 March 2004

**31 March 2004**  
 blah blah glah geik tisdkewie

**1 April 2004**  
 Today Widgets successfully landed an amoeba on the moon.

**1 April 2004**  
 Today we invented the name *Design Butcher*. This is title of

```

news - Notepad
File Edit Format View Help
<?php
include "header.inc";

function readinfo()
{
    $open = fopen("news.txt", "r");
    if ($open)
    {
        echo "<h2>What's New and Happening</h2>";
        echo "<hr>";
        $data = file("news.txt");
        for ($n = 0; $n < count($data); $n++)
        {
            $getline = explode("\t", $data[$n]);
            echo ("<p><b>$getline[0]</b><br>$getline[1]</p>");
        }
        fclose ($open);
    }
    else
    {
        echo "<br>Processing Error. Unable to access information.";
    }
}

readinfo();

include "footer.inc";

?>

```

# news.php

```

news - Notepad
File Edit Format View Help
7 January 2003 Widgets International outsourcing all US jobs. All Widgets International takes place off-shore, where local labor force and pollute the environment without impunity.
30 March 2004 Widgets International Iggy Pop will take over operations of the Widgets International information network in May of 2004. Mr. Pop comes to Widgets with over 25 years of network management, data mining, and pointless exploitation of his own body. Widgets International welcomes Mr. Pop to its staff and invites anyone who has comments about this appointment to write it on a piece of paper and then stick it up their ass.

```

# news.txt

```

footer - Notepad
File Edit Format View Help
<</td>
</tr>
<tr>
<td>&nbsp;</td>
<td align="center"><h6>copy: 2004 Widgets International</h6></td>
</tr>
</table>
</body>
</html>

```

# footer.inc

# Content Management Site

## Next Step

- Replace .txt files with a Database
- Use MySQL for content management

## Rationale

- Facilitate Sharing of Data
- Provide Data Independence
- Support Flexible Querying of Data
- Organize Data
- Secure Data
- Minimize Programming



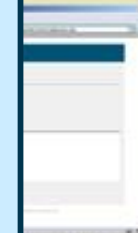
ation.php



ws.php



adminheader.inc



duct.php



footer.inc



links.php



links.txt



addurl.php

# Content Management Site



widgets.php



adminlogin.php



authentication.php



header.inc



news.php



addnews.php



adminheader.inc



footer.inc



products.php



addproduct.php



footer.inc



links.php



addurl.php



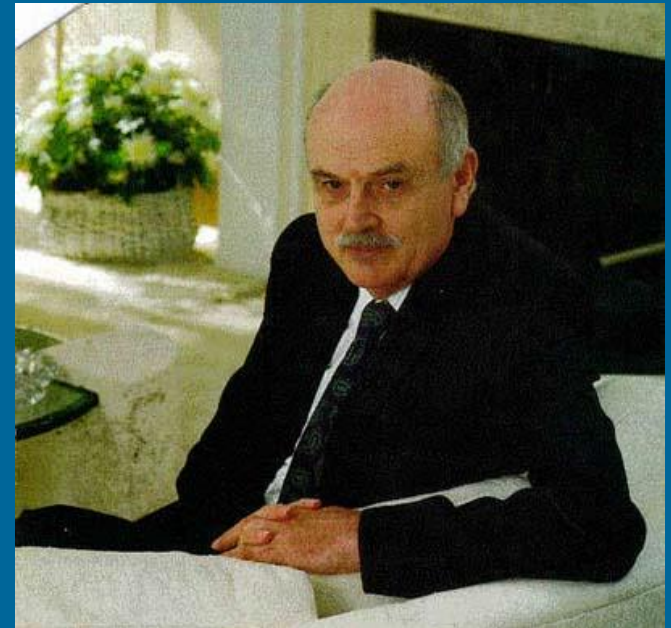
# PHP & MySQL

- Process
  - Introduction
    - Relational Database
    - SQL
    - MySQL
  - Working with MySQL
    - *phpMyAdmin*
    - Creating MySQL database tables
  - PHP and MySQL
    - PHP commands for manipulating MySQL databases
    - PHP and MySQL for content management



# Introduction

- Relational Database
  - Theorized in 1970 by Dr. E.F. Codd
  - Way to organize information that allows for complex linking and relationships between data
  - Standard method for database construction



# Introduction

- SQL
  - “Structured Query Language”
  - An ANSI (American National Standards Institute) standard computer language for accessing and manipulating database systems.
    - SQL89 (1989) – v.1
    - MySQL 5.7 – current stable version
  - Works with database programs like M\$-Access, DB2, Informix, M\$-SQL Server, Oracle, Sybase, and MySQL

# Introduction

- SQL Basic Concept
  - A database contains one or more tables.
  - Each table is identified by a name ("Customers" or "Orders") and contains records (rows) and columns of data.

<b>LastName</b>	<b>FirstName</b>	<b>Address</b>	<b>City</b>
Hansen	Ola	Timoteivn 10	Sandnes
Svendson	Tove	Borgvn 23	Sandnes
Pettersen	Kari	Storgt 20	Stavanger

This table is named "persons" and is made up of three records (rows) and four columns of data.

# Introduction

- SQL Queries
  - SQL is a syntax for executing queries. Queries ask for data from a table and return results

Table  
“persons”

<b>LastName</b>	<b>FirstName</b>	<b>Address</b>	<b>City</b>
Hansen	Ola	Timoteivn 10	Sandnes
Svendson	Tove	Borgvn 23	Sandnes
Pettersen	Kari	Storgt 20	Stavanger

Query

```
SELECT LastName FROM Persons
```

Results

<b>LastName</b>
Hansen
Svendson
Pettersen



# Introduction

- SQL Main Features
  - *Query* - the core language of SQL is designed to support database queries
  - *DML* – Data Manipulation Language; a syntax to update, insert, and delete records from a database.
  - *DDL* – Data Definition Language; part of SQL that permits database tables to be created or deleted.

# Introduction

- MySQL
  - Open Source SQL
  - Works with a number of Application Programming Interfaces (API's) – Perl, Java, C++, and PHP
  - PHP
    - The most common MySQL API – strong integration between PHP and MySQL
    - PHP contains a library of commands that can manipulate the MySQL query language and Data Manipulation Language (DML)
    - Translation: You can use PHP to query, obtain results from, and read/write to MySQL databases

# Introduction

The screenshot shows the MySQL Developer Zone website in a Mozilla Firefox browser window. The browser's address bar displays 'dev.mysql.com'. The website header includes the MySQL logo and the tagline 'The world's most popular open source database'. Below the header is a navigation menu with tabs for 'Developer Zone', 'Downloads', and 'Documentation'. A secondary menu contains links for 'Articles', 'News and Events', 'Forums', 'Bugs', 'Worklog', 'Planet MySQL', 'Community', 'Podcasts', and 'Labs'. The main content area is divided into several sections:

- MySQL Community Server:** Lists versions 5.6.17 GA, 5.5.37 GA, and 5.7.4 m14.
- MySQL Enterprise Edition:** Includes a 'Learn More »' link.
- MySQL Cluster CGE:** Includes a 'Learn More »' link.
- New Releases:** Lists several releases including MySQL for Visual Studio 1.2 (1.2.0 alpha), MySQL Cluster 7.2 (7.2.16 GA), Connector/ODBC 5.3 (5.3.2 GA), MySQL Cluster 7.3 (7.3.5 GA), and Connector/Net 6.7 (6.7.5 GA). A 'More Downloads' link is provided.
- Contact Sales:** Provides phone numbers for USA (+1-866-221-0634), Canada (+1-866-221-0634), and Germany (+49.89.143.01280).

The right side of the page features a 'MySQL Monthly Newsletter' section with a 'Watch the Video »' link. Below this is a 'Developer Articles' section with three articles:

- Making Use of Boost Geometry in MySQL GIS:** By David Zhao | April 22, 2014. The article discusses the use of Boost.Geometry in MySQL to implement reliable and efficient GIS functionality, noting the transition to InnoDB as the default storage engine.
- MySQL 5.7 and GIS, an Example:** By Matt Lord | April 22, 2014. The article offers a simple demonstration of using MySQL 5.7 for spatial features within applications, such as determining the 10 closest Thai restaurants to a location.
- MySQL Fabric RC - Adding High Availability and/or Scaling to MySQL:** By Andrew Morgan | March 31, 2014.

# Introduction

- User Interface to MySQL
  - MySQL monitor
    - Command line user interface
    - Requires access to the Unix/Linux shell
  - phpMyAdmin\*
    - GUI written in PHP
    - Provides more intuitive method of interacting with the MySQL program and your database tables
    - Also allows for command line, should you want to use it



# Introduction

- MySQL Monitor

```
MySQL on db.finance (3,23,47-max-log) up 79+08:23:44 [15:37:21]
Queries Total: 2,068,312,373 Avg/Sec: 301.69 Now/Sec: 242.04 Slow: 798
Threads Total: 45 Active: 5 Cached: 0
Key Efficiency: 99.85% Bytes in: 3,713,492,213 Bytes out: 1,006,022,300
```

Id	User	Host	DB	Time	Cmd	Query or State
5827598	yahoo	proc2	IDX	0	Sleep	
5779323	fred	feed1	Fred	0	Sleep	
5779350	fred	feed1	Fred	0	Query	select a.id as id, a.feed_
5829250	yahoo	museful	mysql	0	Query	show full processlist
5825442	yahoo	proc2	IDX	0	Sleep	
5826226	yahoo	proc3	IDX	0	Query	SELECT * FROM Headlines H,
5825441	yahoo	proc4	IDX	1	Sleep	
5829234	root	localhost	MySQL_Admin	1	Sleep	
5779354	fred	feed1	Fred	9	Sleep	
4303469	yahoo	proc2	IDX	11	Sleep	
4286987	yahoo	biz5	IDX	14	Sleep	
5829245	yahoo	proc3	IDX	19	Sleep	
5829242	locker	proc4	Finance	19	Sleep	
5829246	yahoo	proc4	IDX	19	Sleep	
5829244	locker	proc3	Finance	19	Sleep	
5829240	locker	proc4	Finance	20	Sleep	

```
-- paused, press any key to resume --
```

# Introduction

- phpMyAdmin

The screenshot shows the phpMyAdmin 2.11.0 interface in a Mozilla Firefox browser window. The browser's address bar shows the URL: `http://www2.comm.niu.edu/phpMyAdmin/index.php?lang=en-utf-8&token=7278c45e`. The interface is divided into several sections:

- Left sidebar:** Contains the phpMyAdmin logo and a list of databases: `06bohn (7)`, `avermedal (0)`, `bholicek (0)`, `cbirks (0)`, `dbutler (0)`, `dhealy (0)`, `dwillacorta (0)`, `ebesedova (0)`, `ebreness07 (12)`, `gunkel (3)`, `jbannister (0)`, `jmarsh (0)`, `knagomy (0)`, `mchibe (0)`, `mmichelkamp (0)`, `mtaillon (0)`, `mysql (18)`, `nirizarry (0)`, `rchoyeski (0)`, `sfa (30)`, `szizek (0)`, and `tbukowski (0)`. Below the list is a text input field with the placeholder "Please select a database".
- Top navigation:** Includes icons for Home, MySQL, SQL, and other tools.
- localhost section:** Displays server information: `Server version: 3.23.32`, `Protocol version: 10`, `Server: Localhost via UNIX socket`, and `User: dgunkel@localhost`. It also features a "Create new database" form with a "Create" button and links for "Show MySQL runtime information", "Show MySQL system variables", "Processes", "Storage Engines", "Privileges", "Databases", "Export", and "Import". A "Log out" button is at the bottom.
- phpMyAdmin - 2.11.0 section:** Shows client and server details: `MySQL client version: 5.0.22`, `Used PHP extensions: mysql`, `Language: English (utf-8)`, `Theme / Style: Original`, and `Font size: 82%`. It includes links for "phpMyAdmin documentation", "phpMyAdmin wiki", and "Official phpMyAdmin Homepage", along with "[ChangeLog]", "[Subversion]", and "[Lists]".
- Warning box:** A yellow box at the bottom states: "Your PHP MySQL library version 5.0.22 differs from your MySQL server version 3.23.32. This may cause unpredictable behavior." Below it is a checkbox labeled "Open new phpMyAdmin window".
- Footer:** The word "Done" is visible in the bottom left corner.

# Working with MySQL

- Overview
  - We will not cover every aspect of MySQL; database creation and management is a course in its own right.
  - We will only address what we need for working with PHP
    - Creation of MySQL database tables with phpMyAdmin
    - PHP functions to manipulate MySQL data

# Working with MySQL

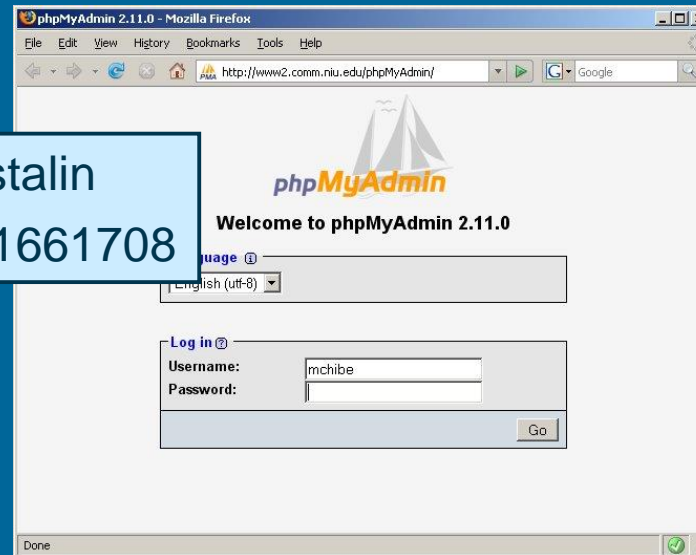
- Overview

- Accessing phpMyAdmin

<http://10.159.9.155/phpmyadmin>

*Username = jstalin*

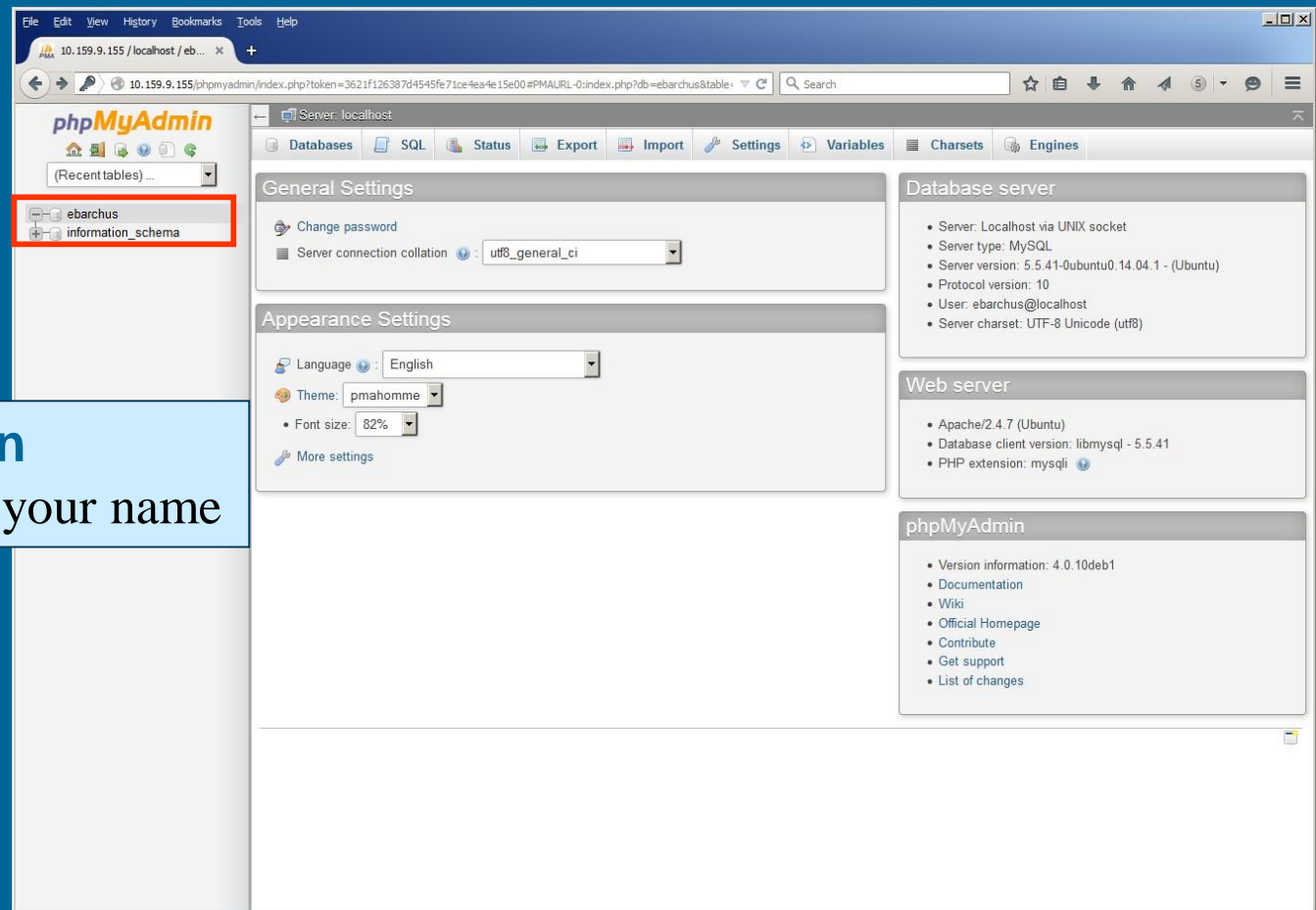
*Password = 01661708*





# Working with MySQL

- Selecting a Database



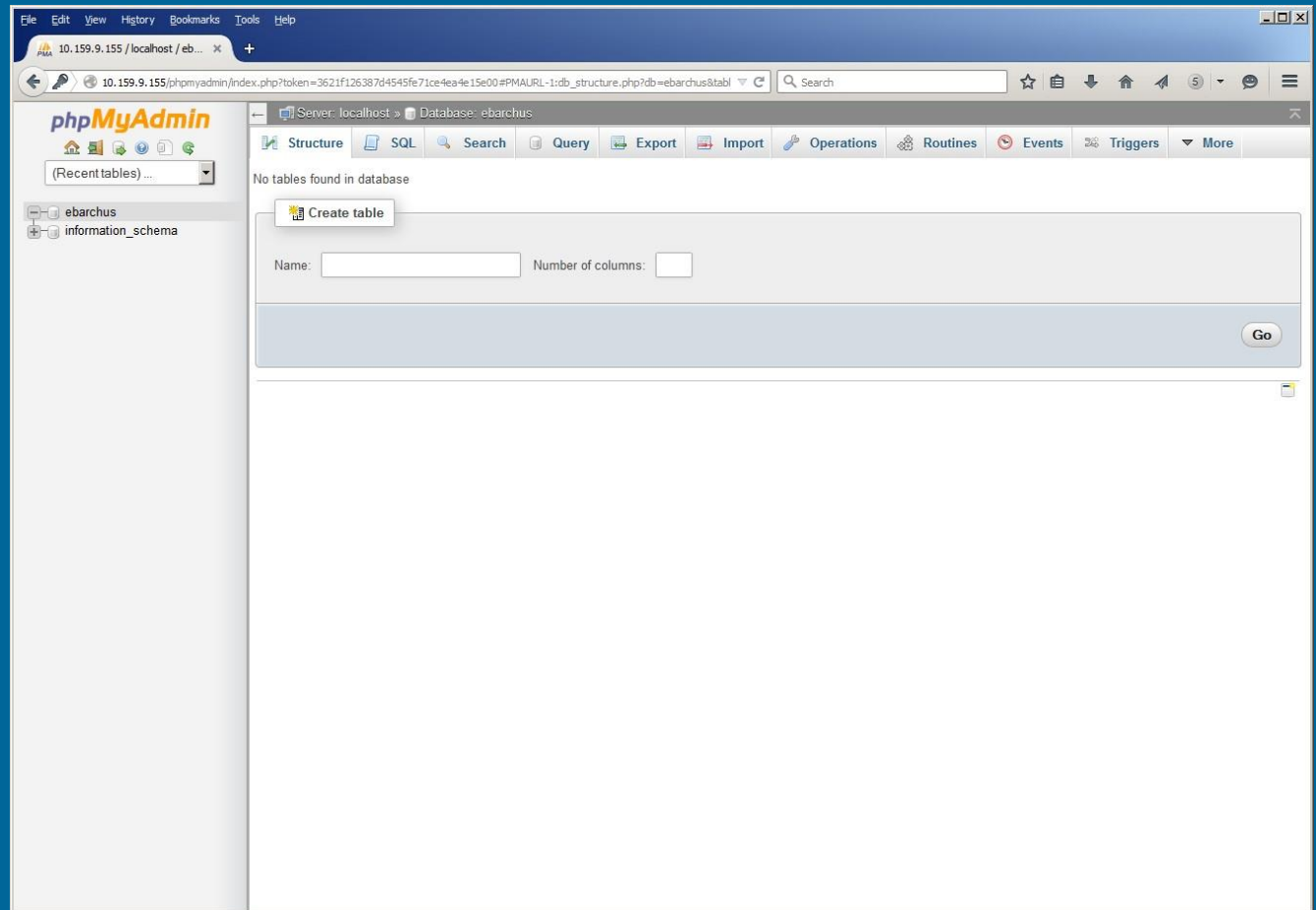
The screenshot shows the phpMyAdmin web interface in a browser window. The address bar shows the URL `10.159.9.155/phpmyadmin/index.php?token=3621f126387d4545fe71ce4ea4e15e00#PMAURL-Q:index.php?db=ebarchus&table=`. The interface includes a navigation menu with options like Databases, SQL, Status, Export, Import, Settings, Variables,Charsets, and Engines. On the left, a sidebar shows a tree view of databases: 'ebarchus' and 'information\_schema'. A red rectangle highlights the 'ebarchus' database. The main content area is divided into several panels: 'General Settings' (with 'Change password' and 'Server connection collation' set to 'utf8\_general\_ci'), 'Appearance Settings' (with 'Language' set to 'English', 'Theme' set to 'pmahomme', and 'Font size' set to '82%'), 'Database server' (listing server details like 'Server: Localhost via UNIX socket', 'Server type: MySQL', 'Server version: 5.5.41-0ubuntu0.14.04.1 - (Ubuntu)', 'Protocol version: 10', 'User: ebarchus@localhost', and 'Server charset: UTF-8 Unicode (utf8)'), 'Web server' (listing 'Apache/2.4.7 (Ubuntu)', 'Database client version: libmysql - 5.5.41', and 'PHP extension: mysql'), and 'phpMyAdmin' (listing version information: '4.0.10deb1' and links for documentation, wiki, official homepage, contribute, get support, and list of changes).

**jstalin**

Click your name

# Working with MySQL

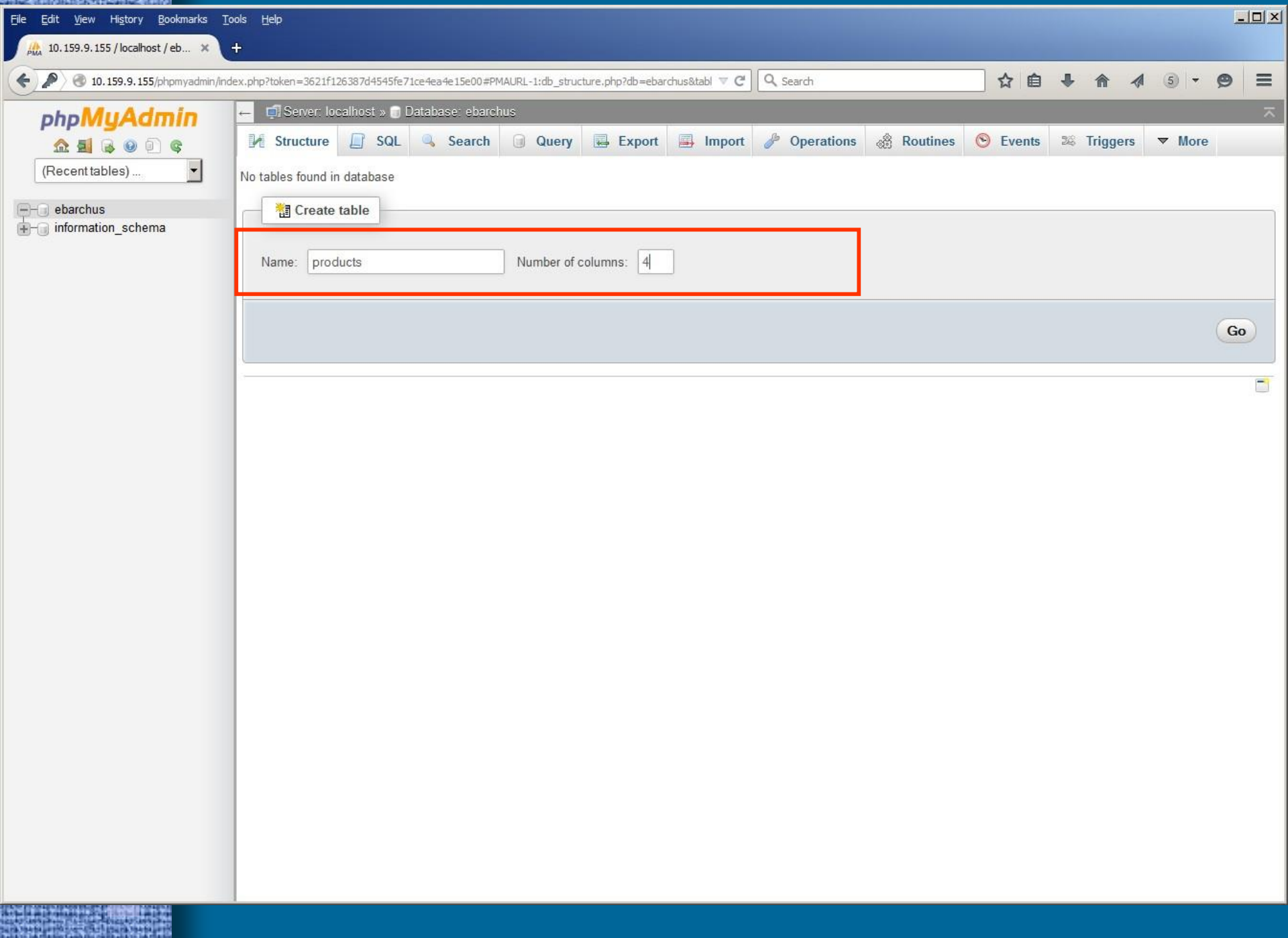
- Selecting a Database - Results



The screenshot displays the phpMyAdmin web interface in a browser window. The address bar shows the URL: `10.159.9.155/phpmyadmin/index.php?token=3621f126387d4545fe71ce4ea4e15e00#PMAURL-1:db_structure.php?db=ebarchus&tabl`. The browser's address bar also shows `10.159.9.155 / localhost / eb...`. The phpMyAdmin interface is titled "Server: localhost - Database: ebarchus". The left sidebar shows the database structure with "ebarchus" selected and "information\_schema" expanded. The main content area displays "No tables found in database" and a "Create table" button. Below this button is a form with two input fields: "Name:" and "Number of columns:". A "Go" button is located at the bottom right of the form.

# Working with MySQL

- Creating a table
  - Right now your database is empty
  - MySQL databases are populated with tables
  - Create a table called *products* that contains the following four fields:
    - product\_name
    - product\_number
    - product\_price
    - product\_description



phpMyAdmin

(Recent tables) ...

- ebarchus
- information\_schema

Server: localhost » Database: ebarchus

Structure SQL Search Query Export Import Operations Routines Events Triggers More

No tables found in database

Create table

Name:  Number of columns:

Go





- (Recent tables) ...
- ebarchus
  - information\_schema

Server: localhost » Database: ebarchus » Table: products

Browse Structure SQL Search Insert Export Import Operations Tracking Triggers

Table name:  Add  column(s)

Structure									
Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A	I
<input type="text"/>	INT	<input type="text"/>	None	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	...	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	INT	<input type="text"/>	None	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	...	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	INT	<input type="text"/>	None	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	...	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	INT	<input type="text"/>	None	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	...	<input type="checkbox"/>	<input type="checkbox"/>

Table comments:

Storage Engine: InnoDB

Collation:

PARTITION definition:

Save

Table name: products Add 1 column(s) Go

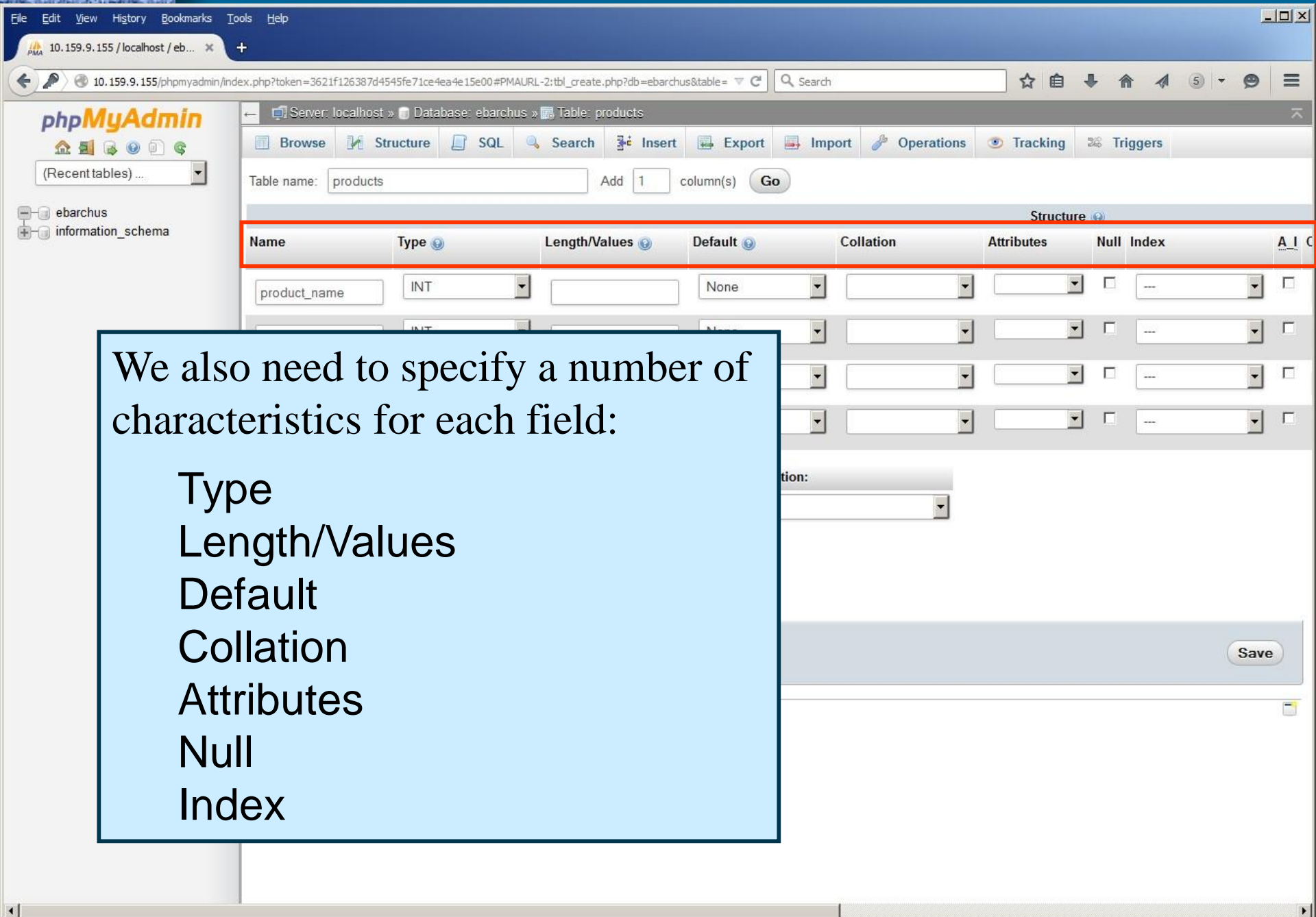
Name	Type	Collation	Attributes	Null	Index	A	I	C
product_name	INT			<input type="checkbox"/>	---			<input type="checkbox"/>
product_number	INT			<input type="checkbox"/>	---			<input type="checkbox"/>
product_price	INT			<input type="checkbox"/>	---			<input type="checkbox"/>
product_description	INT			<input type="checkbox"/>	---			<input type="checkbox"/>

product\_name  
product\_number  
product\_price  
product\_description

Table comments:   
Storage Engine: InnoDB  
Collation:

PARTITION definition:

Save



We also need to specify a number of characteristics for each field:

- Type
- Length/Values
- Default
- Collation
- Attributes
- Null
- Index

# MySQL Data Types

Category	Data Type	Description
Binary Files	BLOB	Binary file with a max length of 65,535 bytes.
	TINYBLOB	Binary file with a max length of 255 bytes
	MEDIUMBLOB	Binary file with a max length of 16,777,215 bytes
	LOBLOB	Binary file with a max length of 4,294,967,295 bytes
Text	CHAR( <i>length</i> )	A fixed-length field from 0 to 255 characters long.
	VARCHAR( <i>length</i> )	A fixed-length field from 0 to 255 characters long.
	TEXT	A string with a maximum length of 65,535 characters
	TINYTEXT	A string with a maximum length of 255 characters
	MEDIUMTEXT	A string with a maximum length of 16,777,215 characters
LONGTEXT	A string with a maximum length of 4,294,967,295 characters	
Numbers	INT	Range of -2,147,483,648 to 2,147,483,648 or 0 to 4,294,967,295, if UNSIGNED
	TINYINT	Range of -128 to 127 or 0 to 255, if UNSIGNED
	SMALLINT	Range of -32,768 to 32,767 or 0 to 65,535, if UNSIGNED
	MEDIUMINT	Range of -8,388,608 to 8,388,607 or 0 to 16,777,215, if UNSIGNED
	BIGINT	Range of -9,223,372,036,854,755,808 to 9,223,372,036,854,755,807 or 0 to 18,446,744, 073,709,551,615, if UNSIGNED
	FLOAT	A small number with a floating decimal point.
	DOUBLE( <i>length, decimals</i> )	A large number with a floating decimal point.
DECIMAL( <i>length, decimals</i> )	A DOUBLE stored as a string, allowing for a fixed decimal point.	
Date	DATE	A date in year-month-day form (i.e. 2004-04-14)
	TIME	A time in hour-minute-second form (i.e. 09:30:00)
	TIMESTAMP	A date in the year-month-day hour-minute-second form (i.e. 20040414093000).
	DATETIME	Same as TIMESTAMP except the format is 2004-04-14 09:30:00
	YEAR	A year represented by four figures (i.e. 2004)
Misc.	ENUM	Short for enumeration, which means that each column can have one of several possible values.
	SET	Like ENUM except that each column can have more than one of several possible values.



# MySQL Data Types

Category	Data Type	Description
Binary Files	BLOB	Binary file with a max length of 65,535 bytes.
	TINYBLOB	Binary file with a max length of 255 bytes
	MEDIUMBLOB	Binary file with a max length of 16,777,215 bytes
	LOB	Binary file with a max length of 4,294,967,295 bytes
	CHAR( <i>length</i> )	A fixed-length field from 0 to 255 characters long
<div style="border: 1px solid black; padding: 10px;"> <h2>Guidelines for Selecting Data Types</h2> <ul style="list-style-type: none"> <li>- Use BLOB for data you do not need to access or manipulate using SQL</li> <li>- Use the appropriate date and time data types to display date and time data</li> <li>- Select the proper numeric type for numbers                             <ul style="list-style-type: none"> <li>- For very large or very small amounts, use DOUBLE</li> <li>- For whole numbers, use SMALLINT or INT</li> <li>- For other kinds of numbers, use DECIMAL</li> </ul> </li> <li>- Select the proper text type for strings                             <ul style="list-style-type: none"> <li>- For names and other small strings, use CHAR or VARCHAR                                     <p>CHAR will always be the length of the column, using spaces to pad a string that is too short; VARCHAR will only be as long as the string</p> </li> <li>- For longer strings, use TEXT or MEDIUMTEXT</li> </ul> </li> </ul> </div>		
	YEAR	A year represented by four figures (i.e. 2004)
Misc.	ENUM	Short for enumeration, which means that each column can have one of several possible values.
	SET	Like ENUM except that each column can have more than one of several possible values.

# Working with MySQL

Field Name	Category	Data Type	Length	Attributes	Other
product_name					
product_number					
product_price					
product_description					

# Working with MySQL

Field Name	Category	Data Type	Length	Attributes	Other
product_name	text				
product_number	number				
product_price	number				
product_description	text				

# Working with MySQL

Field Name	Category	Data Type	Length	Attributes	Other
product_name	text	VARCHAR			
product_number	number	INT			
product_price	number	DOUBLE			
product_description	text	TEXT			



# Working with MySQL

Field Name	Category	Data Type	Length	Attributes	Other
product_name	text	VARCHAR	60		
product_number	number	INT	8		
product_price	number	DOUBLE	5,2		
product_description	text	TEXT			

# Working with MySQL

Field Name	Category	Data Type	Length	Attributes	Other
product_name	text	VARCHAR	60		
product_number	number	INT	8	UNSIGNED	
product_price	number	DOUBLE	5,2	UNSIGNED	
product_description	text	TEXT			

# Working with MySQL

Field Name	Category	Data Type	Length	Attributes	Other
product_name	text	VARCHAR	60		Not Null No Default
product_number	number	INT	8	UNSIGNED	Not Null No Default
product_price	number	DOUBLE	5,2	UNSIGNED	Not Null No Default
product_description	text	TEXT			Not Null No Default

File Edit View History Bookmarks Tools Help

10.159.9.155 / localhost / eb... x +

10.159.9.155/phpmyadmin/index.php?token=3621f126387d4545fe71ce4ea4e15e00#PMAURL-2:tbl\_create.php?db=ebarchus&table=

phpMyAdmin

(Recent tables) ...

Server: localhost » Database: ebarchus » Table: products

Browse Structure SQL Search Insert Export Import Operations Tracking Triggers

Table name: products Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A	I	C
product_name	VARCHAR	60	None			<input type="checkbox"/>	---			
product_number	INT	8	None			<input type="checkbox"/>	---			
product_price	DOUBLE	5,2	None			<input type="checkbox"/>	---			
product_description	TEXT		None			<input type="checkbox"/>	---			

Table comments: Storage Engine: Collation:

Save

Enter the **Type** by selecting the appropriate value from the pull-down menu  
Enter the length by typing the appropriate value in the **Length/Value** field



The screenshot shows the phpMyAdmin interface for a table named 'products'. The table structure is displayed with columns: product\_name (VARCHAR, 60), product\_number (INT, 8), product\_price (DOUBLE, 5.2), and product\_description (TEXT). The 'Attributes' and 'Null' columns are highlighted with a red box. The 'Attributes' for 'product\_number' and 'product\_price' are set to 'UNSIGNED'. The 'Null' settings for all columns are set to 'No'.

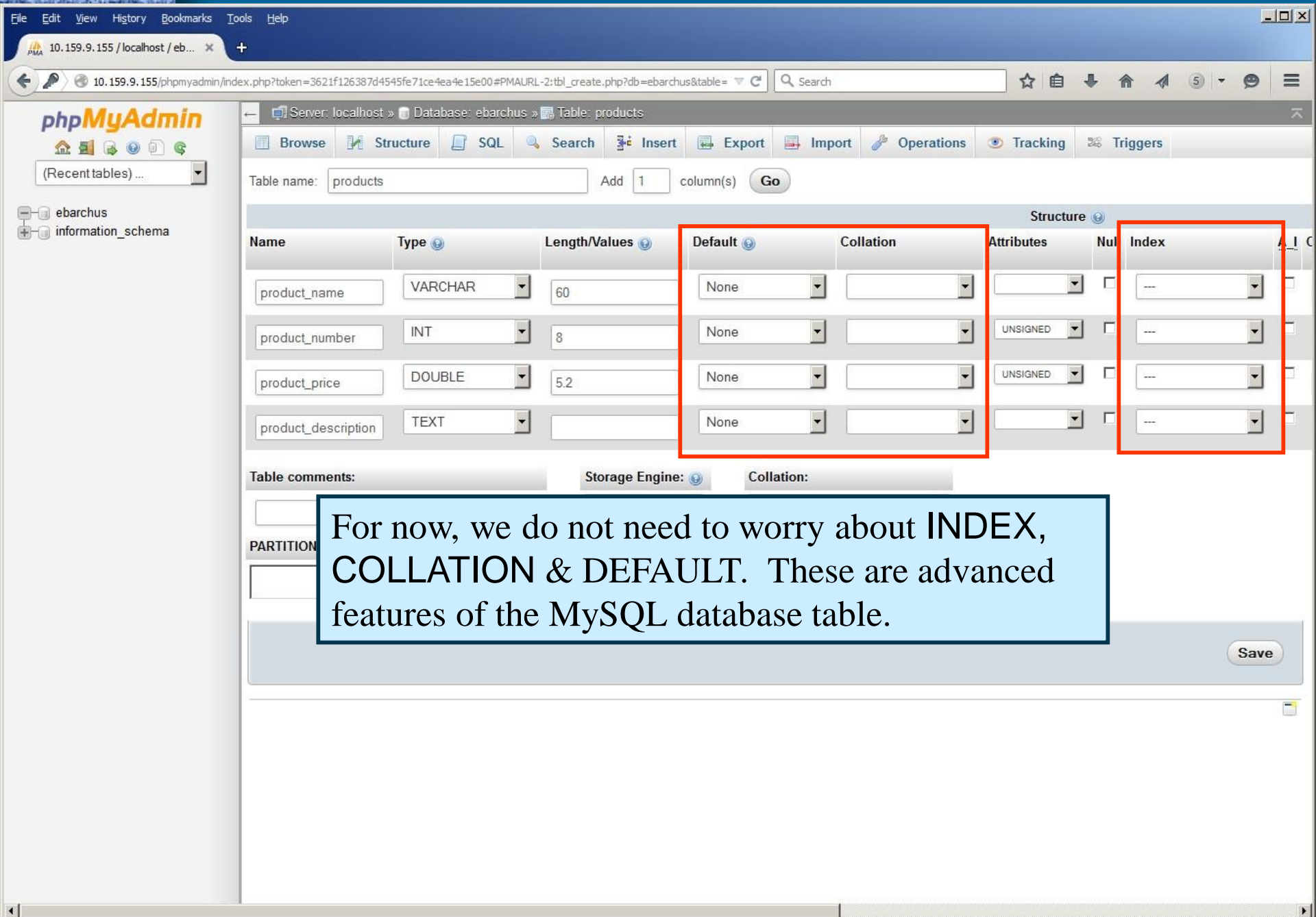
Name	Type	Length/Values	Default	Collation	Attributes	Null	Index
product_name	VARCHAR	60	None			<input type="checkbox"/>	---
product_number	INT	8	None		UNSIGNED	<input type="checkbox"/>	---
product_price	DOUBLE	5.2	None		UNSIGNED	<input type="checkbox"/>	---
product_description	TEXT		None			<input type="checkbox"/>	---

Table comments: Storage Engine: Collation:

Save

Set the attributes for product\_number and product\_price to UNSIGNED. This will ensure that these items will only have the value of a positive number.

Since we do not want any of the values to be empty, we do not change the Null settings.



Server: localhost » Database: ebarchus » Table: products

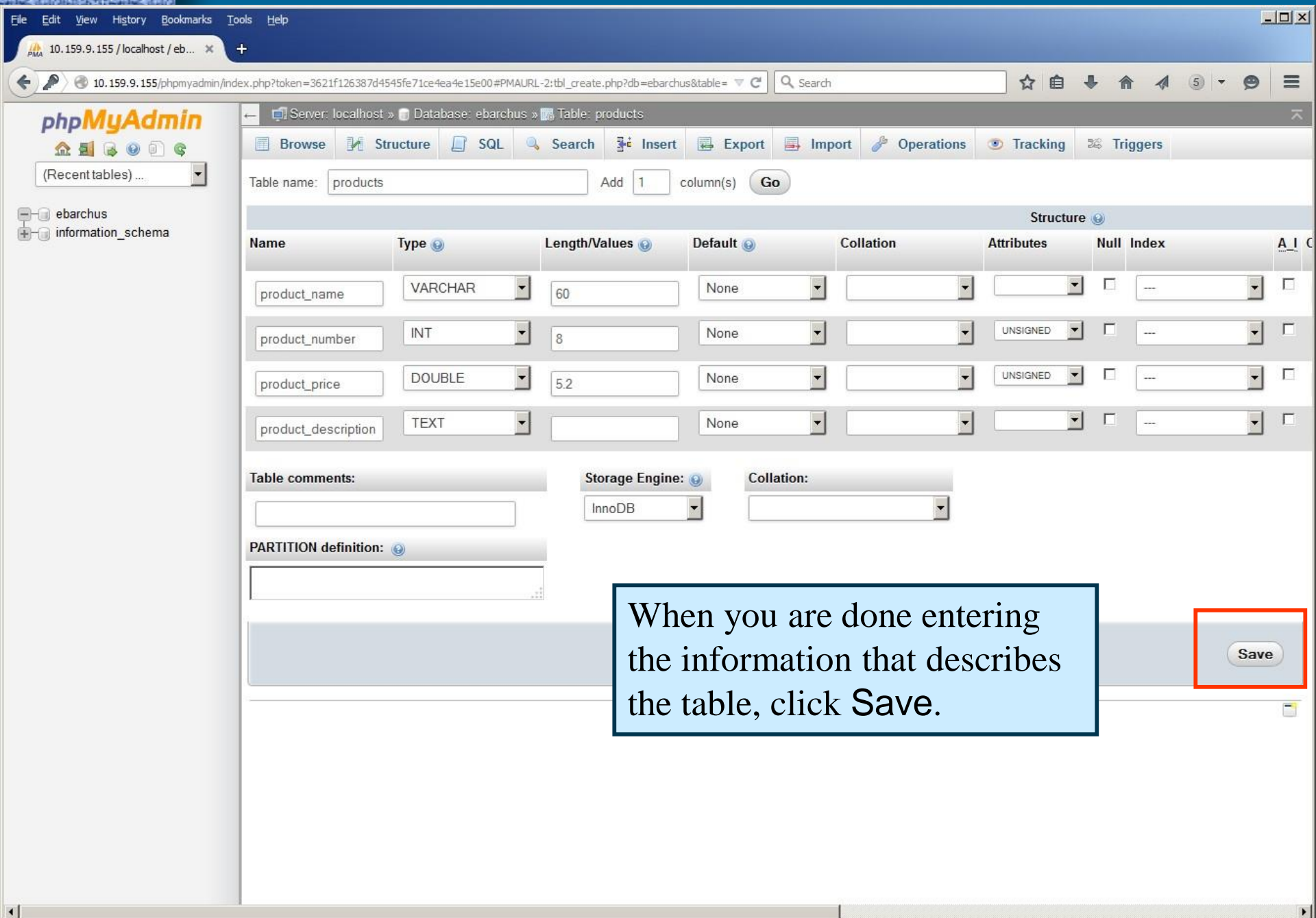
Table name: products Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index
product_name	VARCHAR	60	None			<input type="checkbox"/>	---
product_number	INT	8	None		UNSIGNED	<input type="checkbox"/>	---
product_price	DOUBLE	5,2	None		UNSIGNED	<input type="checkbox"/>	---
product_description	TEXT		None			<input type="checkbox"/>	---

Table comments: Storage Engine: Collation:

For now, we do not need to worry about INDEX, COLLATION & DEFAULT. These are advanced features of the MySQL database table.

Save



When you are done entering the information that describes the table, click Save.

Save

The screenshot shows the phpMyAdmin interface for a MySQL database named 'ebarchus'. The current table selected is 'products'. A red box highlights the navigation tabs: Browse, Structure, SQL, Search, Insert, Export, Import, Operations, Tracking, and Triggers. Below the tabs, a table summary is displayed:

Table	Action	Rows	Type	Collation	Size	Overhead
products	Browse Structure Search Insert Empty Drop	~0	InnoDB	latin1_swedish_ci	16 KiB	-
1 table	Sum	0	InnoDB	latin1_swedish_ci	16 KiB	0 B

At the bottom of the table summary, there is a checkbox for 'Check All' and a dropdown menu for 'With selected:'.

Tabs that control various aspect of the MySQL table.

- \***Browse** - Displays the data contained in the table  
(right now it is disabled because our table has no data)
- \***Structure** - Displays the structure of the table in rows and columns
- SQL** - Command prompt should you want to control your table in this way
- Search** - Used to perform a search on a database
- Insert** - Used to insert data into the database table
- Export** - Options for moving data out of the table
- Import** - Options for moving information into the table
- Operations** - Alter table order, Rename table, Move table
- \***Empty** - Deletes all data from the table; empties the table
- Drop** - Deletes table from database; drops the table from the database



# phpMyAdmin

(Recent tables) ...

- ebarchus
  - New
  - products
  - information\_schema

<a href="#">Browse</a>	<a href="#">Structure</a>	<a href="#">SQL</a>	<a href="#">Search</a>	<a href="#">Insert</a>	<a href="#">Export</a>	<a href="#">Import</a>	<a href="#">Operations</a>	<a href="#">Tracking</a>	<a href="#">Triggers</a>
Table	Action	Rows	Type	Collation	Size	Overhead			
products	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	~0	InnoDB	latin1_swedish_ci	16 KiB	-			
1 table	Sum	0	InnoDB	latin1_swedish_ci	16 KiB	0 B			

Check All    With selected:

[Print view](#) [Data Dictionary](#)

## Create table

Name:     Number of columns:

Go

# phpMyAdmin

(Recent tables) ...

- ebarchus
  - New
  - products
- information\_schema

Server: localhost » Database: ebarchus » Table: products

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Operations](#) [Tracking](#) [Triggers](#)

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
<input type="checkbox"/>	1 product_name	varchar(60)	latin1_swedish_ci		No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">More</a>
<input type="checkbox"/>	2 product_number	int(8)		UNSIGNED	No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">More</a>
<input type="checkbox"/>	3 product_price	double(5,2)		UNSIGNED	No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">More</a>
<input type="checkbox"/>	4 product_description	text	latin1_swedish_ci		No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">More</a>

Check All    With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#)

[Print view](#) [Relation view](#) [Propose table structure](#) [Track table](#) [Move columns](#)

[Add](#)  column(s)  At End of Table  At Beginning of Table  After  [Go](#)

+ Indexes

**Information**

Space usage		Row statistics	
Data	16 KiB	Format	Compact
Index	0 B	Collation	latin1_swedish_ci
Total	16 KiB	Creation	Apr 14, 2015 at 09:33 AM

Table Structure. Indicates the basic organization of the table and settings of its elements.

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
<input type="checkbox"/>	1 product_name	varchar(60)	latin1_swedish_ci		No	None		Change  Drop  Primary  Unique  Index  Spatial  Fulltext  More
<input type="checkbox"/>	2 product_number	int(8)		UNSIGNED	No	None		Change  Drop  Primary  Unique  Index  Spatial  Fulltext  More
<input type="checkbox"/>	3 product_price	double(5,2)		UNSIGNED	No	None		Change  Drop  Primary  Unique  Index  Spatial  Fulltext  More
<input type="checkbox"/>	4 product_description	text	latin1_swedish_ci		No	None		Change  Drop  Primary  Unique  Index  Spatial  Fulltext  More

With selected: Browse Change Drop Primary Unique Index

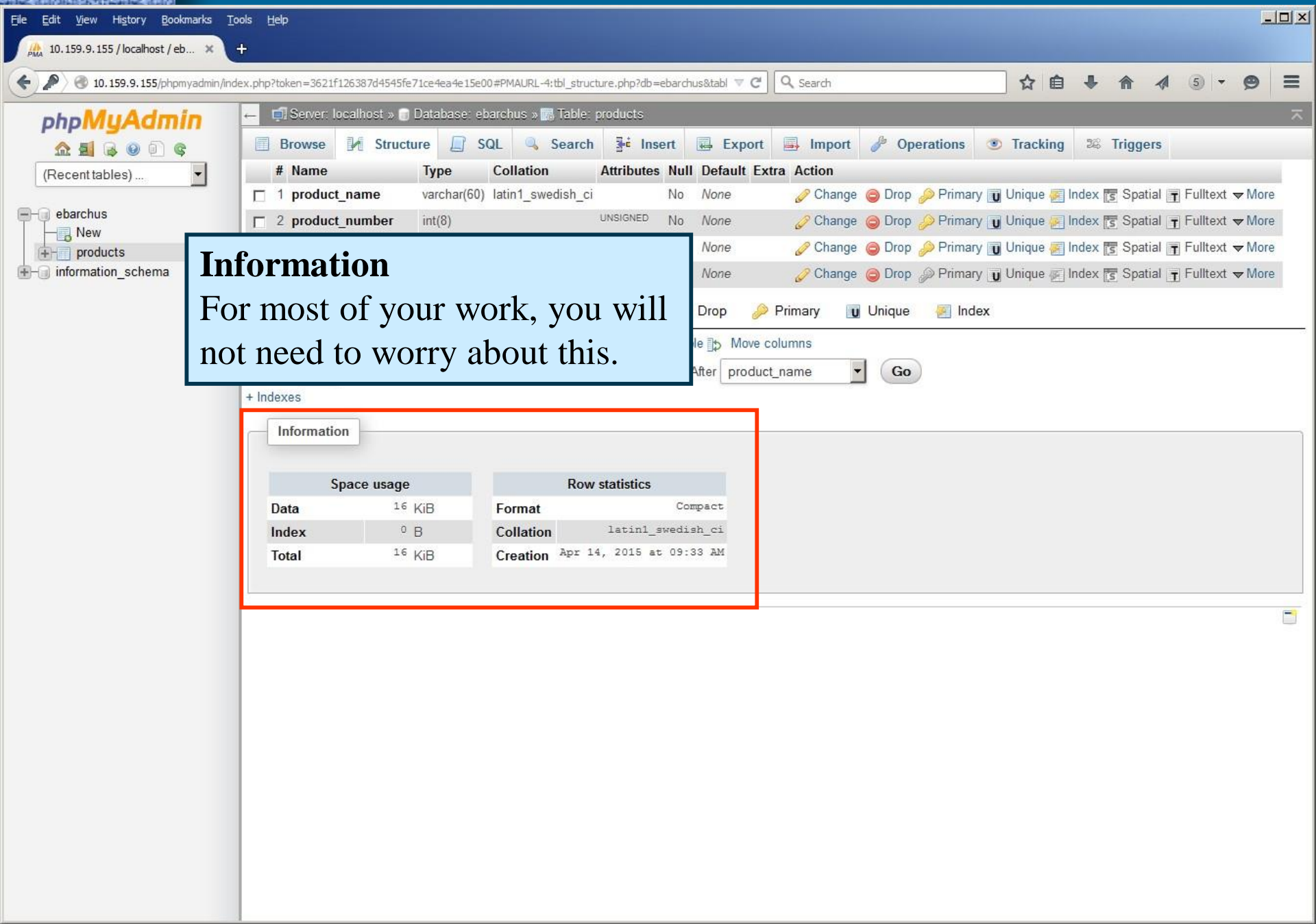
table After

Data	16 KiB	Format	Compact
Index	0 B	Collation	latin1_swedish_ci
Total	16 KiB	Creation	Apr 14, 2015 at 09:33 AM

**Information**  
For most of your work, you will not need to worry about this.

Information

Space usage		Row statistics	
Data	16 KiB	Format	Compact
Index	0 B	Collation	latin1_swedish_ci
Total	16 KiB	Creation	Apr 14, 2015 at 09:33 AM





# Working with MySQL

- Next step
  - Now that we have a database table, we need to create some PHP documents that insert data into the table and present this data to the user.
  - Process
    - Write an administrator page that permits one to insert data into the *products* table
    - Write a user page that permits visitors to your site to view the information contained in the *products* table
    - Goal = create a dynamic, database driven web site

# PHP & MySQL

- Introduction
  - PHP includes a library of functions that provides an interface to MySQL
  - By using these functions, you can access and modify data residing in a MySQL database
  - Typical operations
    - Open a connection to the MySQL server
    - Specify the database to be accessed
    - Issue SQL queries, access query results, and perform non-SQL operations
    - Close the connection to the MySQL server

# PHP & MySQL

- Connecting to the MySQL server

```
mysql_connect ("hostname", "username", "password")
```

- Connection function usually includes a `die` statements to handle errors and assigns the results to a variable

```
$dbh = mysql_connect ("localhost", "jstalin", "01145612");  
if (!$dbh)  
{  
    die ("Failed to open the database.");  
}
```

Note: the values for *hostname*, *username*, and *password* are set by your server administrator.

# PHP & MySQL

- Selecting the Database
  - Once the program has obtained a connection to the MySQL server, it needs to be told what database to use
  - `mysql_select_db()` function

```
mysql_select_db ("database")
```

- Test the result of this function by using:

```
$ok = mysql_select_db ("jstalin");  
if (!ok)  
{  
    die ("Unable to access database jstalin.");  
}
```



# PHP & MySQL

- Error Checking
  - PHP's MySQL library provides two error-checking functions
    - `mysql_errno()` – returns a numeric code for the error
    - `mysql_error()` – returns a string explaining the error
  - Modify database select script to report errors

```
mysql_select_db ("jstalin");  
if (mysql_errno())  
{  
    die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");  
}
```

1044: Access denied for user: 'jstalin@localhost' to database 'jstalin'

# PHP & MySQL

- Closing the MySQL Server Connection
  - PHP automatically closes open database connections when a script terminates. However, it's not a bad idea to close your connections when you're done with them
  - `mysql_close()`

```
mysql_close();
if (mysql_errno())
{
    die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
}
```

# PHP & MySQL

- Queries
  - “Query” = accessing & manipulating data
  - `mysql_query()` function
    - PHP issues queries to the MySQL server by using the `mysql_query(query)` function
    - Where *query* is a string that describes the query to be executed (usually includes MySQL commands)
  - There are two kinds of SQL queries:
    - SELECT
    - UPDATE, INSERT & DELETE

# PHP & MySQL

- Queries
  - INSERT
    - Use to insert data into our table
    - Permit the site administrator to add content
  - SELECT
    - Use to extract data from the database and to present it to the site visitor
    - Permit users to access dynamically generated web content



# PHP & MySQL

- INSERT

- “INSERT INTO *tablename* (*fieldnames*)  
VALUES (“*\$variables*”)”;
- Example with Error checking:

```
$query = "INSERT INTO products (product_name, product_number, product_price, product_description)
VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
$result = mysql_query($query);
if (mysql_errno())
{
    die ("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
}
else
{
    echo "Database has been updated.";
}
```

# PHP & MySQL

- **SELECT**
  - SELECT queries return table rows as results
  - The table rows are contained in a data structure called a *resultset*
  - Processing the resultset returned by a **SELECT** query involves iterating over the rows of the resultset.

# PHP & MySQL

- Iteration
  - There are at least two methods for iterating over the rows of a resultset
    - 1) Method one obtains the number of rows and then uses a **for** statement to iterate through the rows of the resultset
    - 2) Method two uses a **while** statement instead of a **for** statement. This is a better approach, because you do not have to determine the number of rows.

# Method #1

Untitled - Notepad

File Edit Format View Help

```
$query = "SELECT product_name, product_number, product_price,
          product_description FROM products";
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
}
$num = mysql_num_rows($result);

for ($i=0; $i<$num; $i++)
{
    $row = mysql_fetch_rows($results)
    if (mysql_errno())
    {
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
    }

    //display the resultset rows here
}

```



# Method #1

Untitled - Notepad

File Edit Format View Help

```
$query = "SELECT product_name, product_number, product_price,
          product_description FROM products";
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
}

$num = mysql_num_rows($result);

for ($i=0; $i<$num; $i++)
{
    $row = mysql_fetch_rows($results)
    if (mysql_errno())
    {
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
    }

    //display the resultset rows here
}
}
```

Obtain the number of rows in the table by using the `mysql_num_rows()` function.

# Method #1

Untitled - Notepad

File Edit Format View Help

```
$query = "SELECT product_name, product_number, product_price
```

```
$result = mysql_query($query)
```

```
if (mysql_errno())
```

```
{  
    die("<br>" . mysql_error());  
}
```

```
$num = mysql_num_rows($result)
```

```
for ($i=0; $i<$num; $i++)
```

```
{  
    $row = mysql_fetch_rows($result)
```

```
    if (mysql_errno())  
    {  
        die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");  
    }  
}
```

```
//display the resultset rows here
```

```
}
```

Iterate through the array \$row.

The array is created by the `mysql_fetch_rows()` function, which returns an array with a numeric key.

Iterate through the array by using a for statement. The limit of the iteration is set by the number of rows or \$num.

## Method #2

Untitled - Notepad

File Edit Format View Help

```
$query = "SELECT product_name, product_number, product_price,  
          product_description FROM products";  
$result = mysql_query($query);  
  
if (mysql_errno())  
{  
    die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");  
}  
  
while ($row = mysql_fetch_row($result))  
{  
    if (mysql_errno())  
    {  
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");  
    }  
  
    //display the resultset rows here  
}
```

## Method #2

### Untitled - Notepad

File Edit Format View Help

```
$query = "SELECT product_name, product_number, product_price,
          product_description FROM products";
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
}

while ($row = mysql_fetch_row($result))
{
    if (mysql_errno())
    {
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
    }

    //display the resultset
}
}
```

Replace the for statement with a while statement. This statement also iterates through the table rows and creates an array by using the `mysql_fetch_row()` function. But unlike a for statement, a while statement does not require that you first obtain the number of rows.



# PHP & MySQL

- Next Step
  - Once you iterate through the rows of the resultset, then you have to display them
  - Displaying the results
    - `foreach` statement = simple formatting of content that displays the content of each column for each row
    - More complex formatting can be accomplished by accessing individual elements of the array `$row`

## Method #2 – Displaying the resultset (simple)

```
Untitled - Notepad
File Edit Format View Help

$query = "SELECT product_name, product_number, product_price,
          product_description FROM products";
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
}

while ($row = mysql_fetch_row($result))
{
    if (mysql_errno())
    {
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
    }

    foreach ($row as $column)
    {
        echo "<br>$column";
    }
    echo "<br>";
}
}
```

Use a foreach statement to display the content (column) of each row in the resultset.

# Method #2 – Displaying the resultset (v.1)

```
Untitled - Notepad
File Edit Format View Help

$query = "SELECT product_name, product_number, product_price,
          product_description FROM products";
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_errno());
}

while ($row = mysql_fetch_row($result))
{
    if (mysql_errno())
    {
        die("<br>" . mysql_errno());
    }

    foreach ($row as $column)
    {
        echo "<br>$column";
    }
    echo "<br>";
}

Widgets International - Mozilla
File Edit View Go Bookmarks Tools Window Help
http://www.comm1.niu.edu:8080/gunkel/version2/product3.php

Widgets International
News
Products
Links
Home
Admin

Products

SuperMega Widget
201
56.95
This is the larger, heavier version of our standard Widget of
Mass Deception, or WMD. It is manufactured to precise
specifications supplied by ISO 4001. It is big, it is
cumbersome, and it is extremely superfluous.

Widget
101
34.50
This is the original Widget of Maximum Dementia, or WMD. It
is fully functional and fun to own.

© 2004 Widgets International
```



## Method #2 – Displaying the resultset (v.2)

```
Untitled - Notepad
File Edit Format View Help

$query = "SELECT product_name, product_number, product_price,
          product_description FROM products";
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
}

while ($row = mysql_fetch_row($result))
{
    if (mysql_errno())
    {
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
    }

    echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";

    while ($row = mysql_fetch_row($result))
    if (mysql_errno())
    {
        die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
    }

    else
    {
        echo "<tr><td align='left'><b>$row[1] - ";
        echo "$row[0]</b>";
        echo "<br>$row[3]</td>";
        echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
    }
    echo "</table>"; |

```

Display the results in table form. Create a table by echoing HTML tags and fill the table cells by using echo statements that access the values of individual array elements by indicating the array name and the key.



# Method #2 – Displaying the resultset (v.2)

The image shows a Notepad window with PHP code and a Mozilla browser window displaying the rendered output. The code in Notepad is as follows:

```
Untitled - Notepad
File Edit Format View Help
$query = "SELECT product_name, product_number, product_price,
          product_
$result = mysql_query($query);

if (mysql_errno())
{
    die("<br>" . mysql_error());
}

while ($row = mysql_fetch_row($result))
{
    if (mysql_errno())
    {
        die("<br>" . mysql_error());
    }

    echo "<table width='90%' border='1'>";

    while ($row = mysql_fetch_row($result))
    {
        if (mysql_errno())
        {
            die("<br>" . mysql_error());
        }

        else
        {
            echo "<tr><td align='left'><b>$row[0]</b>";
            echo "<br>$row[3]</td><td align='right' valign='top'>\$$row[2]</td></tr>";
        }
    }
    echo "</table>";
}
```

The browser window shows the rendered output of the code. The page title is "Widgets International" and the URL is "http://www.comm1.niu.edu:8080/gunkel/version2/product2.php". The page content includes a navigation menu with links for "News", "Products", "Links", "Home", and "Admin". The "Products" section displays a table with two rows:

Product Name	Price
<b>101 - Widget</b> This is the original Widget of Maximum Dementia, or WMD. It is fully functional and fun to own.	\$34.50
<b>201 - SuperMega Widget</b> This is the larger, heavier version of our standard Widget of Mass Deception, or WMD. It is manufactured to precise specifications supplied by ISO 4001. It is big, it is cumbersome, and it is extremely superfluous.	\$56.95

© 2004 Widgets International

# PHP & MySQL

- Exercise
  - Content Management with MySQL database
    - Replace the text files with a MySQL table
    - Use the *products* table
  - Write two pages
    - Administrator side – `addproduct.php`
      - Use `INSERT` to add data to the *products* database table
      - “Write” information to the database
    - User side – `products.php`
      - Use `SELECT` to present data from the *products* table
      - “Read” information from the database

```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost", "jstalin", "01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die (<br> . mysql_errno().": ".mysql_error().<br>);
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description)";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die (<br> . mysql_errno().": ".mysql_error().<br>);
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b>
47     <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b>
49     <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b>
51     <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b>
53     <br><textarea name="product_description" rows="8" cols="70"> </textarea></p>
54 <br><input type="hidden" name="beensubmitted" value="TRUE">
55 <p><input type="submit" name="submit" value="submit"></p>
56 </form>
57 <?php include "footer.inc"; ?>
```



```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
```



```

1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost", "root", "password");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database.");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>

```

Since this is an administrator page, check to see that the user has logged in successfully by checking whether the username of the cookie is empty or not. If it is empty, then echo an error statement and exit the script. If it is not empty, then the script continues. This is the same script used in the previous example.

```

1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description)";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>

```

Initialize the variables for the script. There are 5 variables and each one refers to one of the form input fields at the bottom of the page.

```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
```

Use the adminheader.inc  
Echo an html string to create the page heading.



Declare a function called handleform()  
Set the variables to global

```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description)";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
```



```

1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_erro()
25     {
26         die ("<br>" . mysql_erro()." : ".mysql_erro()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description)";
30     $result = mysql_query($query);
31     if (mysql_erro()
32     {
33         die ("<br>" . mysql_erro()." : ".mysql_erro()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>

```

Connect to the MySQL server by using the `mysql_connect()` function.

This function will take three arguments: *“localhost”*, *“username,”* *“password”*  
Use a conditional to test whether the connection to the database succeeded or not. If not, use the `die ( )` function.

```

1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>

```

Select the database by using the `mysql_select_db()` function. Specify the database name (e.g. `jstalin`) as the argument of the function.

Include error checking by using `mysql_errno()` and `mysql_error()` functions.

```

1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['submit'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect("localhost","root","") or die ("Failed to connect to MySQL: " . mysql_error());
19     if (!$dbh)
20     {
21         die ("Failed to connect to MySQL: " . mysql_error());
22     }
23     mysql_select_db("widgets",$dbh) or die ("Failed to select database: " . mysql_error());
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>

```

Query the database. Here you are **INSERTING** the values assigned to the variables `$product_name`, `$product_number`, `$product_price`, and `$product_description` INTO the table `products` under the field names `product_name`, `product_number`, `product_price`, and `product_description`. Note: The sequence of variables and field names is important.

Assign the results of this query to a variable `$query` and use this variable to check for errors and `echo` a status statement.



```

1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description)";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>

```

Use a conditional to test whether the form has been submitted. If the form has beensubmitted, then invoke the handleform( ) function and fire up the MySQL stuff above.



```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description)";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
```

```

1  <?php
2  if (empty($_COOKIE['username']))
3  {
4      echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5      return false;
6  }
7  $product_name = $_POST['product_name'];
8  $product_number = $_POST['product_number'];
9  $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b>
47 <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b>
49 <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b>
51 <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b>
53 <br><textarea name="product_description" rows="8" cols="70"> </textarea></p>
54 <br><input type="hidden" name="beensubmitted" value="TRUE">
55 <p><input type="submit" name="submit" value="submit"></p>
56 </form>
57 <?php include "footer.inc"; ?>

```

```
28 $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29     VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30 $result = mysql_query($query);
31 if (mysql_errno())
32     {
33     die ("  
> . mysql_errno().": ".mysql_error()."<br>");
34     }
35 else
36     {
37     echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41     {
42     handleform();
43     }
44 ?>
45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b>
47     <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b>
49     <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b>
51     <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b>
53     <br><textarea name="product_description" rows="8" cols="70"> </textarea></p>
54 <br><input type="hidden" name="beensubmitted" value="TRUE">
55 <p><input type="submit" name="submit" value="submit"></p>
56 </form>
57 <?php include "footer.inc"; ?>
```



```

28 $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29     VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30 $result = mysql_query($query);
31 if (mysql_errno())
32 {
33     die ("<br>" . m
34 }
35 else
36 {
37     echo "Database
38 }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }

```

A standard HTML form with three type=text input fields for product\_name, product\_number, and product\_price and one textarea for the product\_description.

The form's action is assigned to addproduct.php, meaning that the page processes itself.

Also include one hidden input to indicate whether the form has beensubmitted

```

45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b>
47     <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b>
49     <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b>
51     <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b>
53     <br><textarea name="product_description" rows="8" cols="70"> </textarea></p>
54 <br><input type="hidden" name="beensubmitted" value="TRUE">
55 <p><input type="submit" name="submit" value="submit"></p>
56 </form>
57 <?php include "footer.inc"; ?>

```



```

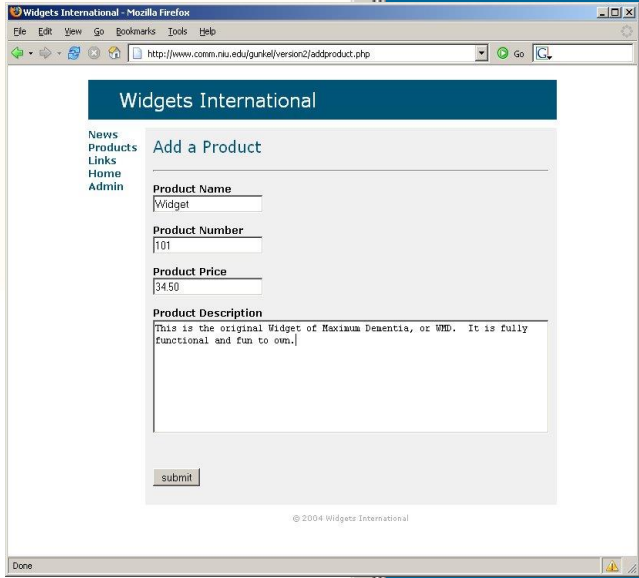
28 $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29     VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30 $result = mysql_query($query);
31 if (mysql_errno())
32     {
33     die ("  
> . mysql_errno().": ".mysql_error()."<br>");
34     }
35 else
36     {
37     echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41     {
42     handleform();
43     }
44 ?>
45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b>
47     <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b>
49     <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b>
51     <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b>
53     <br><textarea name="product_description" rows="8" cols="70"> </textarea></p>
54 <br><input type="hidden" name="beensubmitted" value="1">
55 <p><input type="submit" name="submit" value="Add Product"></p>
56 </form>
57 <?php include "footer.inc"; ?>

```

End the page by including the footer.inc from the previous example.

```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if(mysql_errno())
25     {
26         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number, product_price, product_description)
29             VALUES ('$product_name', '$product_number', '$product_price', '$product_description')";
30     $result = mysql_query($query);
31     if (mysql_errno())
32     {
33         die ("<br>" . mysql_errno().": ".mysql_error()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b>
47 <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b>
49 <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b>
51 <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b>
53 <br><textarea name="product_description" rows="8" cols="70"> </textarea></p>
54 <br><input type="hidden" name="beensubmitted" value="TRUE">
55 <p><input type="submit" name="submit" value="submit"></p>
56 </form>
57 <?php include "footer.inc"; ?>
```

# addproduct.php



www2.comm.niu.edu / localhost / mchibe | phpMyAdmin 2.11.0 - Mozilla Firefox








File Edit View History Bookmarks Tools Help

http://www2.comm.niu.edu/phpMyAdmin/index.php?lang=en-utf-8&token=2258a0e16b3c456b17f933ceee88ae21

phpMyAdmin

Server: localhost Database: mchibe

Structure SQL Search Query Export Import Operations

Table	Action	Records	Type	Size	Overhead
products	      	1	MyISAM	1.2 KiB	-
1 table(s) Sum		1	MyISAM	1.2 KiB	0 B

Check All / Uncheck All With selected: ▾

Print view Data Dictionary

Create new table on database mchibe

Name:  Number of fields:

Go

Open new phpMyAdmin window

Done

Check the results in phpMyAdmin.  
Click on the products table.



File Edit View History Bookmarks Tools Help

10.159.9.155 / localhost / eb... Widgets International David GUNKEL - Outlook

10.159.9.155/phpmyadmin/index.php?db=ebarchus&table=products&target=sql.php&token=3621f126387d4545fe71ce4ea4e15e00#

Server: localhost » Database: ebarchus » Table: products

**Browse** Structure SQL Search Insert Export Import Operations Tracking Triggers

(Recent tables) ...

ebarchus  
New  
products  
information\_schema

This table does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 1 (2 total, Query took 0.000)

```
SELECT *  
FROM `products`  
LIMIT 0, 30
```

Profiling [ Inline ] [ Edit ] [ Explain SQL ] [ Create PHP Code ] [ Refresh ]

Show : Start row: 0 Number of rows: 30 Headers every 100 rows

+ Options

product_name	product_number	product_price	product_description
Big Widget	0	59.99	Stuff you need to have.
Small Widget	0	39.99	This is a smaller version of the same piece of cra...

Show : Start row: 0 Number of rows: 30 Headers every 100 rows

Query results operations

Print view Print view (with full texts) Export Display chart Create view

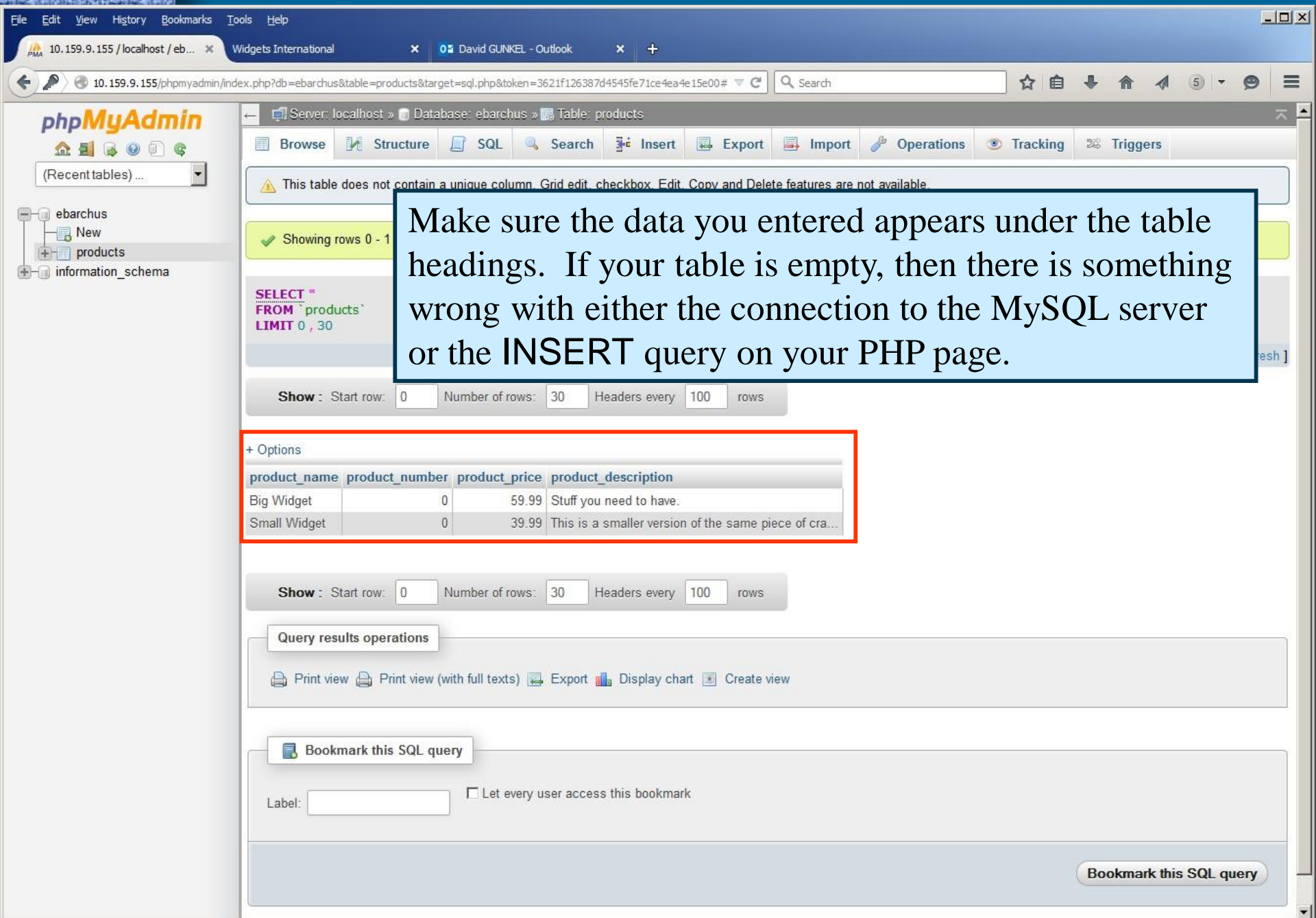
Bookmark this SQL query

Label:   Let every user access this bookmark

Bookmark this SQL query

Click on Browse to see the content added to your database table





Make sure the data you entered appears under the table headings. If your table is empty, then there is something wrong with either the connection to the MySQL server or the INSERT query on your PHP page.

product_name	product_number	product_price	product_description
Big Widget	0	59.99	Stuff you need to have.
Small Widget	0	39.99	This is a smaller version of the same piece of cra...

```
1 <?php
2 include "header.inc";
3 echo "<h2>Products</h2><hr>";
4 $dbh=mysql_connect ("localhost","jstalin","01570367");
5 if (!$dbh)
6 {
7     die ("Failed to open the Database");
8 }
9 mysql_select_db("jstalin");
10 if(mysql_errno())
11 {
12     die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
13 }
14 $query = "SELECT product_name, product_number, product_price, product_description
15         FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18 {
19     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
20 }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

```
1 <?php
2 include "header.inc";
3 echo "<h2>Products</h2><hr>";
4 $dbh=mysql_connect ("localhost","js
5 if (!$dbh)
6 {
7     die ("Failed to open the Database");
8 }
9 mysql_select_db("jstalin");
10 if(mysql_errno())
11 {
12     die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
13 }
14 $query = "SELECT product_name, product_number, product_price, product_description
15         FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18 {
19     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
20 }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

Since this is not an administrator page, use the header.inc to create the page header and use an echo statement to provide a page title.



```
1 <?php
2 include "header.inc";
3 echo "<h2>Products</h2><hr>";
4 $dbh=mysql_connect ("localhost","jstalin","01570367");
5 if (!$dbh)
6 {
7     die ("Failed to open the Database");
8 }
9 mysql_select_db("jstalin");
10 if(mysql_errno())
11 {
12     die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
13 }
14 $query = "SELECT product_name, product_number, product_price, product_description
15         FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18 {
19     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
20 }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

Connect to the MySQL server and the database by using the same script that was used on the previous page.



```
1 <?php
2 include "header.inc";
3 echo "<h2>Product";
4 $dbh=mysql_connect(
5 if (!$dbh)
6 {
7     die ("Failed");
8 }
9 mysql_select_db(
10 if(mysql_erro
11 {
12     die ("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
13 }
14 $query = "SELECT product_name, product_number, product_price, product_description
15         FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18 {
19     die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
20 }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

Query the database.  
SELECT the data from the fields product\_name, product\_number, product\_price and product\_description FROM the table products.  
Assign the results to the variable \$query and check for errors.

```
$query = "SELECT product_name, product_number, product_price, product_description
        FROM products" ;
$result = mysql_query($query);
if (mysql_errno())
{
    die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
}
```

Process and display the resultset. Begin by creating the basic parameters of a table by using an `echo` statement.

Then process the resultset by using a `while` statement. This statement takes the `mysql_fetch_rows()` function as an argument, which creates an array that is assigned to the name `$row`. Include an error handling line in case the resultset cannot be processed.

If there is no error (`else`), then display the resultset. Do this by filling in the table cells with the elements of the `$row` array. These are specified by indicating the name of the array and the key, which in this case is an integer (i.e. `$row[0]` ).

```
1 <?php
2 incl
3 echo
4 $db
5 if
6 {
7
8 }
9 mys
10 if (
11 {
12
13 }
14 $qu
15
16 $re
17 if
18 {
19     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
20 }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

```
1 <?php
2 include "header.inc";
3 echo "<h2>Products</h2><hr>";
4 $dbh=mysql_connect ("localhost","jstalin","01570367");
5 if (!$dbh)
6 {
7     die ("Failed to open the Database");
8 }
9 mysql_select_db("jstalin");
10 if(mysql_errno())
11 {
12     die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
13 }
14 $query = "SELECT product_name, product_number, product_price, product_description
15         FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18 {
19     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
20 }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right'";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

echo "</table>";  
include "footer.inc";  
?>

End the script by closing the table and including footer.inc



# products.php

```
1 <?php
2 include "header.inc";
3 echo "<h2>Products</h2><hr>";
4 $dbh=mysql_connect ("localhost","jstalin","01570367");
5 if (!$dbh)
6     {
7         die ("Failed to open the Database");
8     }
9 mysql_select_db("jstalin");
10 if(mysql_errno())
11     {
12         die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
13     }
14 $query = "SELECT product_name, product_number, product_price, product_description
15         FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18     {
19         die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
20     }
21 echo "<table width='90%' align='left' cellspacing='7' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23     if (mysql_errno())
24         {
25             die("<br>" . mysql_errno( ) . ": " . mysql_error( ) . "<br>");
26         }
27     else
28         {
29             echo "<tr><td align='left'><b>$row[1] - ";
30             echo "$row[0]</b>";
31             echo "<br>$row[3]</td>";
32             echo "<td align='right' valign='top'>\$$row[2]</td></tr>";
33         }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```



# Administrator Side

```
1 <?php
2 if (empty($_COOKIE['username']))
3 {
4     echo "Access Denied - Return to <a href='widgets.php'>Main Page</a>";
5     return false;
6 }
7 $product_name = $_POST['product_name'];
8 $product_number = $_POST['product_number'];
9 $product_price = $_POST['product_price'];
10 $product_description = $_POST['product_description'];
11 $beensubmitted = $_POST['beensubmitted'];
12
13 include "adminheader.inc";
14 echo "<h2>Add a Product</h2><hr>";
15 function handleform()
16 {
17     global $product_name, $product_number, $product_price, $product_description;
18     $dbh=mysql_connect ("localhost","jstalin","01570367");
19     if (!$dbh)
20     {
21         die ("Failed to open the Database");
22     }
23     mysql_select_db("jstalin");
24     if (mysql_erro()
25     {
26         die ("<br> . mysql_erro().": " .mysql_erro()."<br>");
27     }
28     $query = "INSERT INTO products (product_name, product_number,
29     29     VALUES ('$product_name', '$product_number', '$product
30     $result = mysql_query($query);
31     if (mysql_erro()
32     {
33         die ("<br> . mysql_erro().": " .mysql_erro()."<br>");
34     }
35     else
36     {
37         echo "Database has been updated.";
38     }
39 }
40 if ($beensubmitted)
41 {
42     handleform();
43 }
44 ?>
45 <form method="post" action="addproduct.php">
46 <p><b>Product Name</b></p>
47 <br><input type="text" name="product_name"></p>
48 <p><b>Product Number</b></p>
49 <br><input type="text" name="product_number"></p>
50 <p><b>Product Price</b></p>
51 <br><input type="text" name="product_price"></p>
52 <p><b>Product Description</b></p>
53 <br><textarea name="product_description" rows="8" cols="70"> </
54 <br><input type="hidden" name="beensubmitted" value="TRUE">
55 <p><input type="submit" name="submit" value="submit"></p>
56 </form>
57 <?php include "footer.inc"; ?>
```

Widgets International

News  
Products  
Links  
Home  
Admin

## Add a Product

**Product Name**

**Product Number**

**Product Price**

**Product Description**

© 2004 Widgets International

phpMyAdmin

Showing rows 0 - 1 (2 total. Query took 0.0002 sec)

```
SELECT * FROM `products` LIMIT 0, 30
```

product_name	product_number	product_price	product_description
Big Widget	0	59.99	Stuff you need to have
Small Widget	0	39.99	This is a smaller version of the same piece of cra...

Query results operations: Print view, Print view (with full texts), Export, Display chart, Create view

Bookmark this SQL query

# User Side

The screenshot shows the phpMyAdmin interface for a database named 'ebarchus'. The 'products' table is selected, showing two rows: 'Big Widget' (product number 0) and 'Small Widget' (product number 0). Below the table, a code editor displays the PHP code for 'product.php', which connects to a MySQL database and queries the 'products' table to display its contents in an HTML table.

```
1 <?php
2 include "header.inc";
3 echo "<h2>Products</h2><hr>";
4 $dbh=mysql_connect ("localhost","jstalin","015703
5 if (!$dbh)
6 {
7     die ("Failed to open the Database");
8 }
9 mysql_select_db("jstalin");
10 if(mysql_errno())
11 {
12     die ("<br>" . mysql_errno().": " .mysql_error(
13 }
14 $query = "SELECT product_name, product_number, pr
15     FROM products" ;
16 $result = mysql_query($query);
17 if (mysql_errno())
18 {
19     die("<br>" . mysql_errno( ). ": " . mysql_error( ) . "<br>");
20 }
21 echo "<table width='90%' align='left' cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno( ). ": " . mysql_error( ) . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[1] - ";
30     echo "$row[0]</b>";
31     echo "<br>$row[3]</td>";
32     echo "<td align='right' valign='top'>\$row[2]</td></tr>";
33 }
34 echo "</table>";
35 include "footer.inc";
36 ?>
37
```

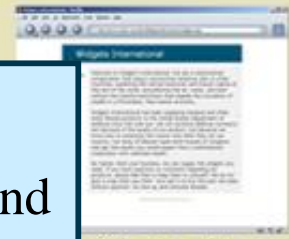
The screenshot shows a web browser displaying the 'Widgets International' website. The page features a navigation menu with links for 'News', 'Products', 'Links', 'Home', and 'Admin'. The 'Products' section is active, displaying a table of products with their names, descriptions, and prices.

Product Name	Description	Price
345 - Super-Mega Widget	This widget is a total piece of shit. Do not expect it to do anything. It will frustrate you. It will piss you off. It will make you sorry you ever had anything to do with Widgets International.	\$56.24
465 - Widget of Mass Deception	This WMD is completely invisible and not able to be detected using any current technology. You just have to believe that it exists. It is a kind of faith based Widget.	\$79.46

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# Content Management Site

**Next Step**  
Replace news.txt and  
links.txt with MySQL  
database tables



widgets.php



adminlogin.php



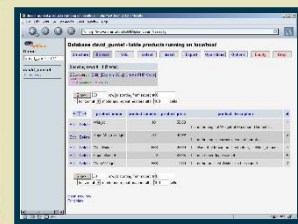
authentication.php



header.inc



news.php



addnews.php



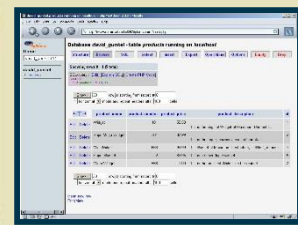
adminheader.inc



footer.inc



products.php



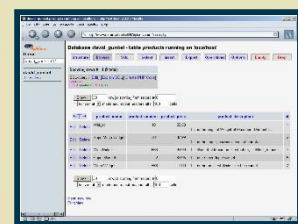
addproduct.php



footer.inc



links.php



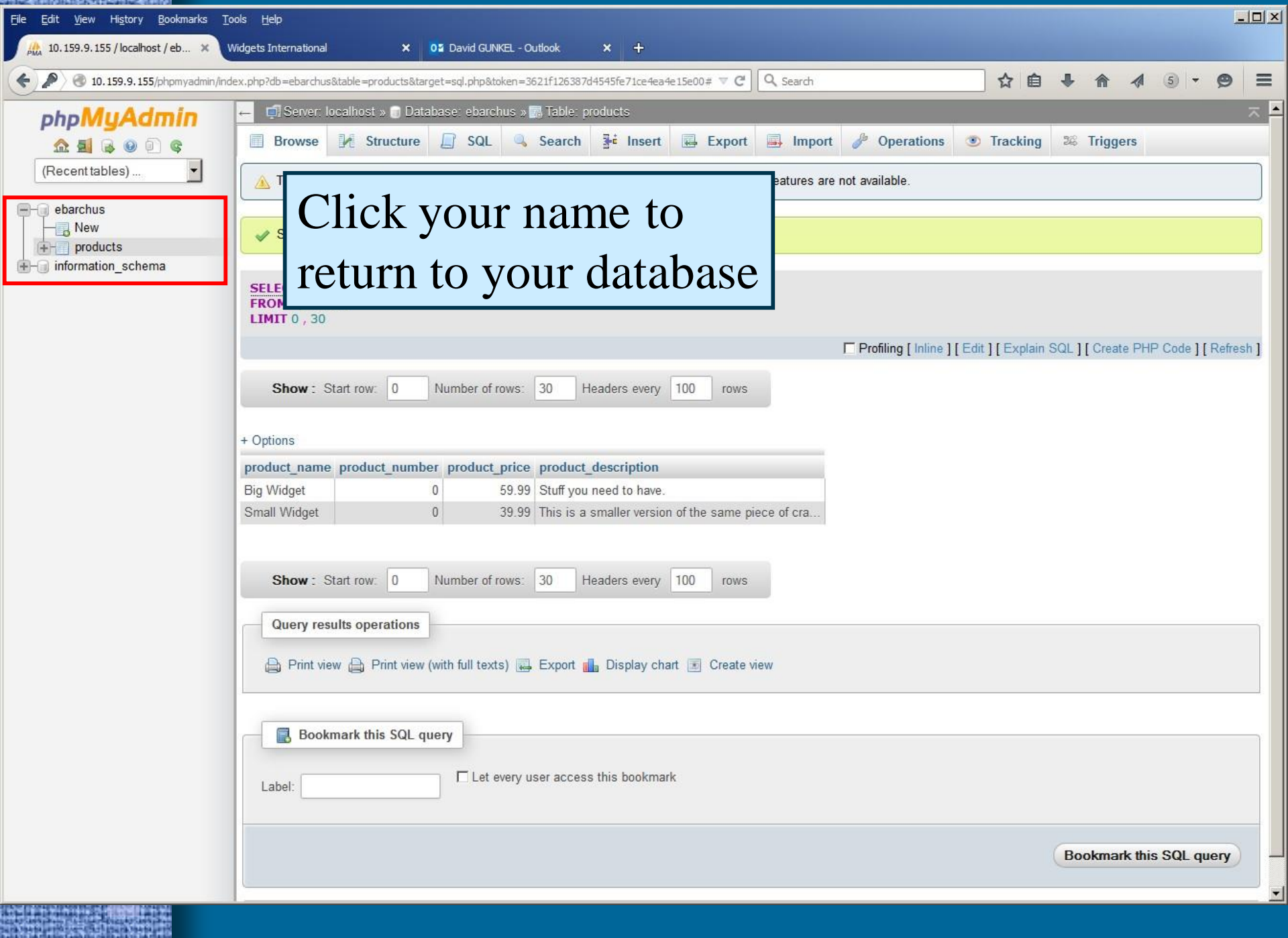
addurl.php



# Next Step

- Process
  1. Create two new database tables in MySQL
    - news
    - links
  2. Revise both the user and admin pages
    - addnews.php
    - addurl.php
    - news.php
    - links.php





Click your name to return to your database

product_name	product_number	product_price	product_description
Big Widget	0	59.99	Stuff you need to have.
Small Widget	0	39.99	This is a smaller version of the same piece of cra...

Show : Start row: 0 Number of rows: 30 Headers every 100 rows

Query results operations

[Print view](#) [Print view \(with full texts\)](#) [Export](#) [Display chart](#) [Create view](#)

Bookmark this SQL query

Label:   Let every user access this bookmark

[Bookmark this SQL query](#)

**phpMyAdmin**

(Recent tables) ...

- ebarchus
  - New
  - products
  - information\_schema

Server: localhost » Database: ebarchus

Structure SQL Search Query Export Import Operations Routines Events Triggers More

Table	Action	Rows	Type	Collation	Size	Overhead
products	Browse Structure Search Insert Empty Drop	~2	InnoDB	latin1_swedish_ci	16 KiB	-
1 table	Sum	2	InnoDB	latin1_swedish_ci	16 KiB	0 B

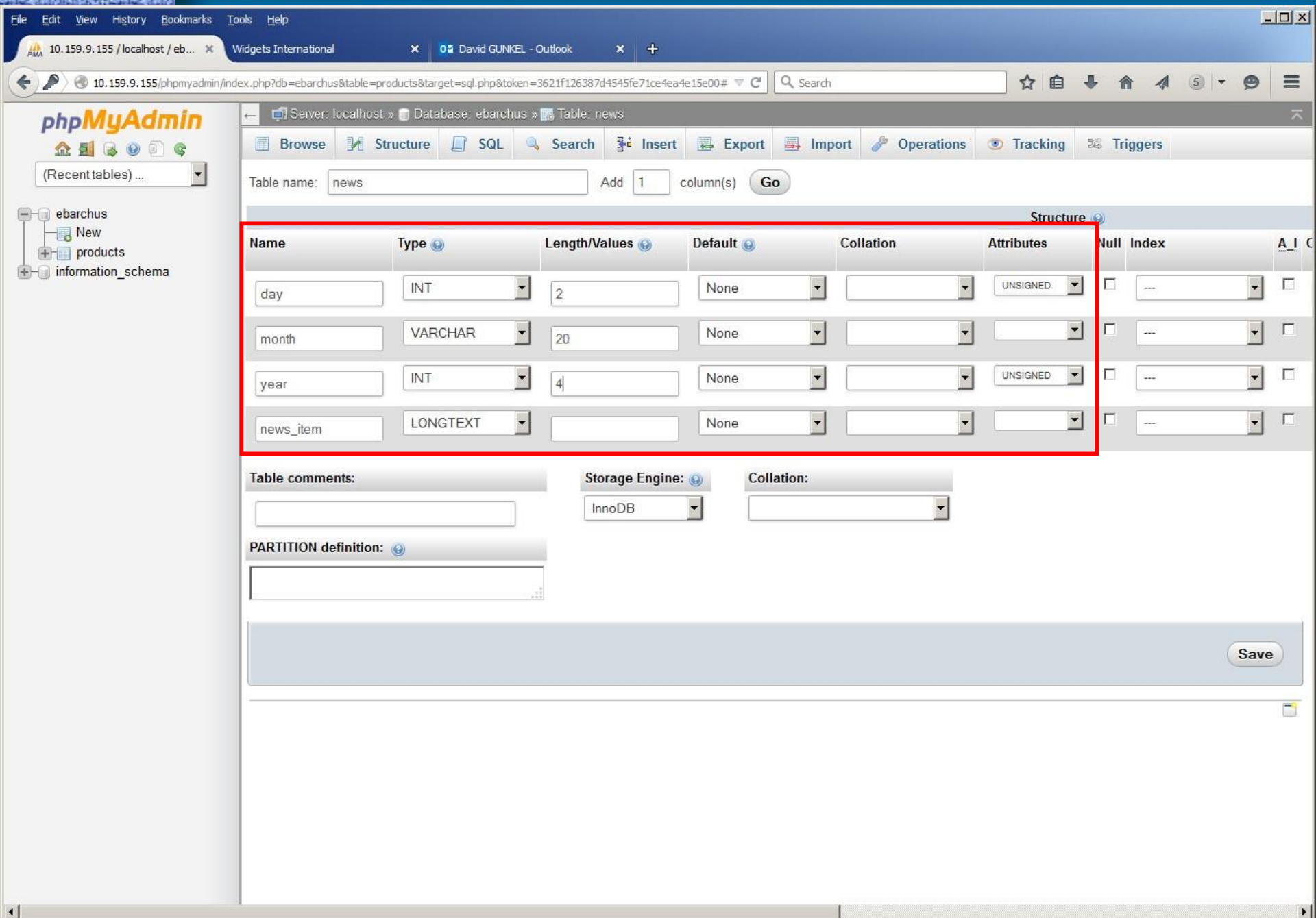
Check All With selected: [v]

Print view Data Dictionary

**Create table**

Name:  Number of columns:

Go



phpMyAdmin

(Recent tables) ...

- ebarchus
  - New
  - products
  - information\_schema

Server: localhost » Database: ebarchus » Table: news

Browse Structure SQL Search Insert Export Import Operations Tracking Triggers

Table name: news Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A I C
day	INT	2	None		UNSIGNED	<input type="checkbox"/>	---	<input type="checkbox"/>
month	VARCHAR	20	None			<input type="checkbox"/>	---	<input type="checkbox"/>
year	INT	4	None		UNSIGNED	<input type="checkbox"/>	---	<input type="checkbox"/>
news_item	LONGTEXT		None			<input type="checkbox"/>	---	<input type="checkbox"/>

Table comments:

Storage Engine: InnoDB

Collation:

PARTITION definition:

Save

**phpMyAdmin**

(Recent tables) ...

- ebarchus
  - New
  - news
  - products
  - information\_schema

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> news	Browse  Structure  Search  Insert  Empty  Drop	~0	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> products	Browse  Structure  Search  Insert  Empty  Drop	~2	InnoDB	latin1_swedish_ci	16 KiB	-
<b>2 tables</b>	<b>Sum</b>	<b>2</b>	<b>InnoDB</b>	<b>latin1_swedish_ci</b>	<b>32 KiB</b>	<b>0 B</b>

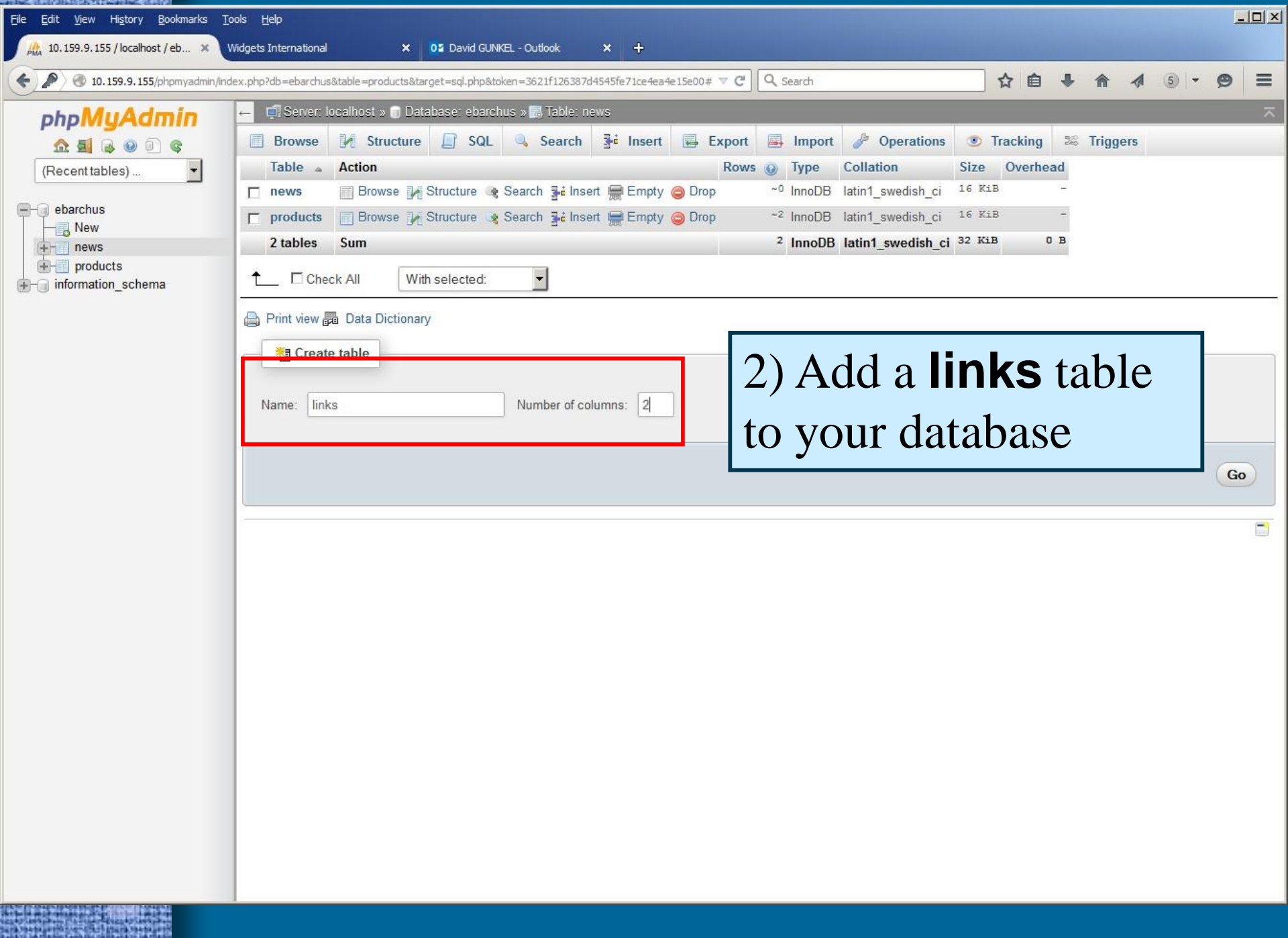
Check All    With selected:

Print view   Data Dictionary

Create table

Name:     Number of columns:





2) Add a **links** table to your database

**phpMyAdmin**

(Recent tables) ...

- ebarchus
  - New
  - news
  - products
  - information\_schema

Server: localhost » Database: ebarchus » Table: links

Browse Structure SQL Search Insert Export Import Operations Tracking Triggers

Table name: links Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A I C
url	VARCHAR	60	None			<input type="checkbox"/>	---	<input type="checkbox"/>
description	LONGTEXT		None			<input type="checkbox"/>	---	<input type="checkbox"/>

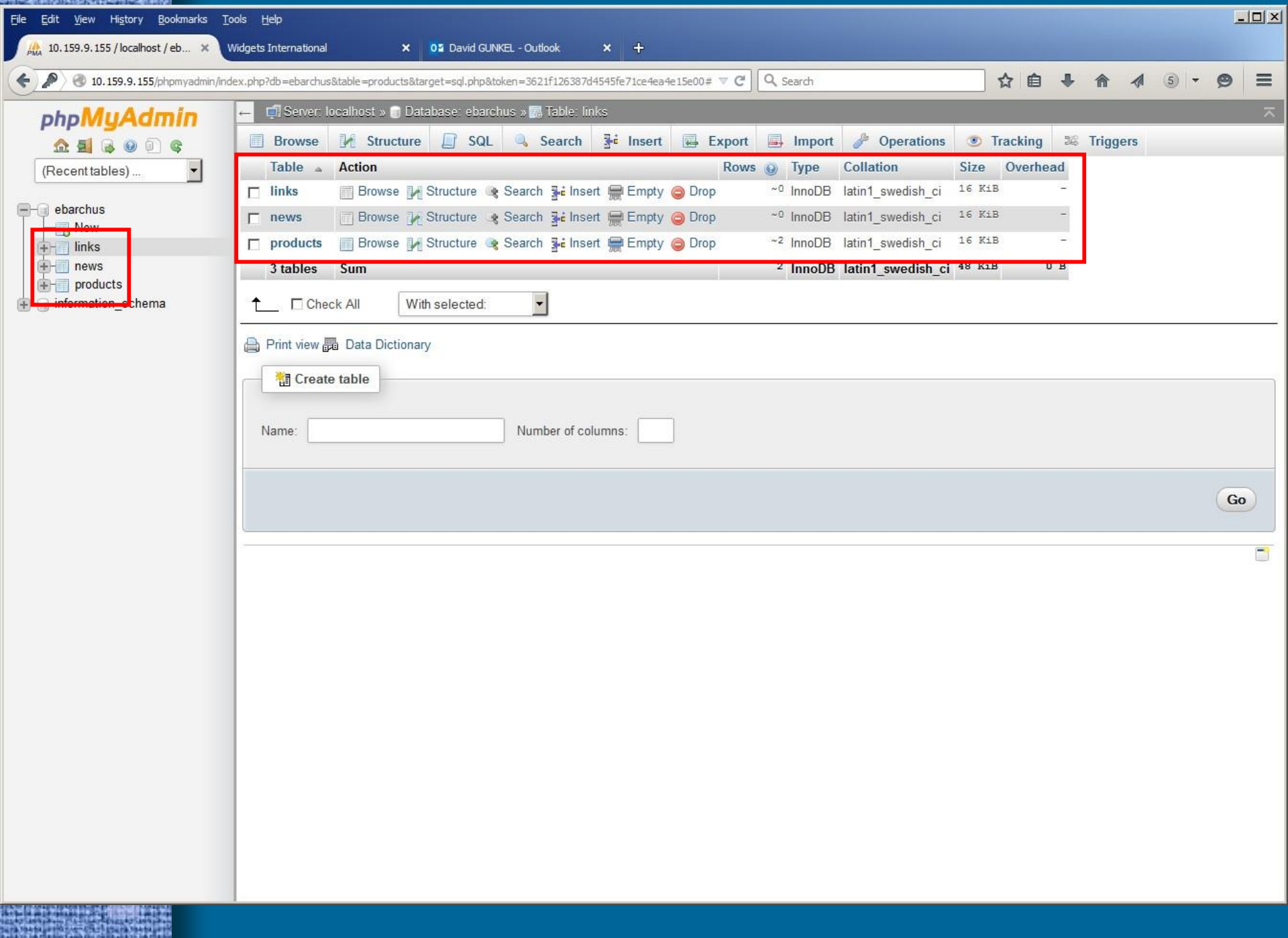
Table comments:

Storage Engine: InnoDB

Collation:

PARTITION definition:

Save



phpMyAdmin

(Recent tables) ...

- ebarchus
  - links
  - news
  - products
  - information\_schema

Server: localhost » Database: ebarchus » Table: links

Browse Structure SQL Search Insert Export Import Operations Tracking Triggers

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> links	Browse Structure Search Insert Empty Drop	~0	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> news	Browse Structure Search Insert Empty Drop	~0	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> products	Browse Structure Search Insert Empty Drop	~2	InnoDB	latin1_swedish_ci	16 KiB	-
3 tables	Sum	2	InnoDB	latin1_swedish_ci	48 KiB	0 B

Check All With selected:

Print view Data Dictionary

Create table

Name:  Number of columns:

Go

# Administrator Side

- 1) Modify addproducts.php
- 2) Create two files:  
addnews.php  
addurl.php

```
addnews - Notepad
File Edit Format View Help
<?php
include "adminheader.inc";
echo "<h2>Add News</h2><hr>";

function handleform()
{
    global $day, $month, $year, $news_item;

    $dbh=mysql_connect ("localhost");
    if (!$dbh)
    {
        die ("Failed to open the Database");
    }
    mysql_select_db("gunkel");
    if(mysql_errno())
    {
        die ("<br>" . mysql_errno().": " .mysql_e

    $query = "INSERT INTO news (day, month, year,
        VALUES ('$day', '$month', '$year'
        $result = mysql_query($query);

    mysql_errno().": " .mysql_e

    been updated.";

    "addnews.php">

    <p>Day: <input type="text" name="day" size="

    Month: <select name="month">
    <option value="January">January</option
    <option value="February">Februa
    <option value="March">March</op
    <option value="April">April</op
    <option value="May">May</option
    <option value="June">June</opti
    <option value="July">July</opti
    <option value="August">August</
    <option value="September">Septel
    <option value="October">October
    <option value="November">Novemb
    <option value="December">Decemb
    </select>
    Year: <input type="text" name="year" size="

    <br><br><b>News Item</b>
    <br><textarea name="news_item" rows="8" cols="7
    </textarea>
    <br><input type="hidden" name="beensubmitted" v

    <p><input type="submit" name="submit" value="submit"></p>
    </form>

    <?php
    include "footer.inc";
    ?>
```

```
addurl - Notepad
File Edit Format View Help
<?php
include "adminheader.inc";
echo "<h2>Add Link</h2><hr>";

function handleform()
{
    global $url, $description;

    if($url)
    {
        $subject = $url;
        $pattern = "(http://)?([a-zA-Z0-9./_-]+)";
        $replace = "http://^2";
        $url = eregi_replace ($pattern, $replace, $subject);
    }

    $dbh=mysql_connect ("localhost");
    if (!$dbh)
    {
        die ("Failed to open the Database");
    }
    mysql_select_db("gunkel");
    if(mysql_errno())
    {
        die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
    }

    $query = "INSERT INTO links (url, description)
        VALUES ('$url', '$description')";
    $result = mysql_query($query);
    if (mysql_errno())
    {
        die ("<br>" . mysql_errno().": " .mysql_error()."<br>");
    }
    else
    {
        echo "Database has been updated.";
    }
}

if ($beensubmitted)
{
    handleform();
}

<form method="post" action="addurl.php">
<br><b>URL</b>
<br><input type="text" name="url" size="60">
<br><br><b>Description</b>
<br><textarea name="description" rows="8" cols="70">
</textarea>
<br><input type="hidden" name="beensubmitted" value="TRUE">
<p><input type="submit" name="submit" value="submit"></p>
</form>

<?php
include "footer.inc";
?>
```



# User Side

```
news - Notepad
File Edit Format View Help
<?php
include "header.inc";

echo "<h2>News</h2><hr>";

$dbh=mysql_connect ("localhost");
if (!$dbh)
{
    die ("Failed to open the Database");
}
```

```
links - Notepad
File Edit Format View Help
<?php
include "header.inc";

echo "<h2>Links</h2><hr>";

$dbh=mysql_connect ("localhost");
if (!$dbh)
{
    die ("Failed to open the Database");
}

mysql_select_db("gunkel");
if(mysql_errno())
{
    die("<br>" . mysql_errno( ) . " : " . mysql_error( ) . "<br>");
}

else
{
    echo "<tr><td align='left'><a href=\"\$row[0]\">$row[0]</a>";
    echo "<br>$row[1]</td></tr>";
}

echo "</table>";

include "footer.inc";
?>
```

- 1) Modify products.php
- 2) Create two files:  
    news.php  
    links.php

# Preview

- Expand PHP & MySQL
  - SELECT, UPDATE, DELETE queries
  - Provide more complete content management control (not just add data but also change and delete database data)

# Preview

- Homework
  - Convert the content management example from text files to MySQL database tables
  - Replace all text files with database tables

