

A Visual Guide to Importing and Exporting Data Between Microsoft Excel and MySQL

A MySQL[®] White Paper

September 2009

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Executive Summary

For many years, Microsoft Windows has been the most popular development platform and second most popular production platform for MySQL applications. In early 2009 we conducted our annual survey and what we found is that 66% percent of those surveyed used Windows for development and 48% ultimately deployed on Windows. Given that so many users deploy MySQL on Windows, it makes sense to recap how easy it is to work with data in MySQL and Microsoft Excel. With the power of the SQL language and MySQL's RDBMS capabilities, it allows users to leverage the data so that it can be shared by multiple users concurrently, in a more secure, and manageable manner through a variety of interfaces and front ends. For the purposes of this guide we will show you how easy it is to import and export data between MySQL and Excel using MySQL's ODBC Connector in conjunction with Excel 2007 and Access 2007's native import/export capabilities.

Why MySQL on Microsoft Windows?

First, MySQL on Windows remains strong due to the fact that MySQL delivers:

- Lower TCO
- Ease of use
- Reliability
- Performance
- Fully featured database with no functional limitations

From a statistical viewpoint, the downloads for the MySQL server, tools and connectors for Windows from mysql.com averaged, an astonishing 45,000 downloads per day during the first half of 2009.

Finally, in Gartner's recent "Market Share: Relational Database Management System Software by Operating System, Worldwide, 2008" report they found that the growth for RDBMS running on Windows Server grew in 2007-2008 by 17.5%. Without a doubt MySQL is a very popular database choice on Windows.

Why Microsoft Excel and MySQL?

Without question Excel is the defacto standard for manipulating and analyzing data in a spreadsheet format. However, often the need arises to share the data, make it more secure, reliable, or allow for access and manipulation to be performed through various front ends whether they be Access or through a browser. In this case, MySQL is the perfect choice. MySQL is the world's most popular open source database that as we have shown is wildly popular on Windows. MySQL gives you all the functionality you would expect from a fully-featured RDBMS combined with an ease of use that makes it a perfect choice for both novice and expert database users.

We should note that for the purposes of this guide we can think of Excel Workbooks as MySQL databases and Excel Worksheets (spreadsheets) as MySQL tables.

Download and Install MySQL

First, we'll need to download a copy of MySQL 5.1, which can be obtained at:

<http://dev.mysql.com/downloads/mysql/5.1.html>

For details on how to install MySQL on Windows, go to:

A Visual Guide to Installing MySQL on Windows

http://www.mysql.com/why-mysql/white-papers/visual_guide_to_installing_mysql_windows.php

Download and Install the Example Sakila Database

Download and install a copy of the MySQL sample database called, “sakila” which can be obtained from:

<http://downloads.mysql.com/docs/>

Create the schema and load the data from the SQL files contained in the download.

Download and Install the MySQL ODBC Connector

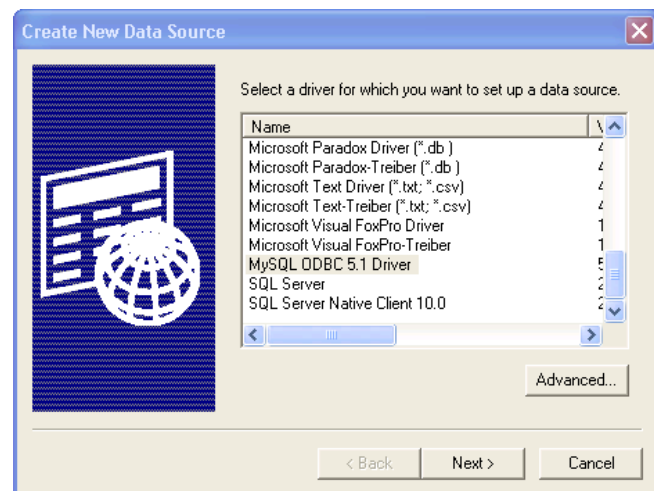
The MySQL ODBC connector provides connectivity for Excel and Access to MySQL. The ODBC connector can be downloaded from:

<http://dev.mysql.com/downloads/connector/odbc/5.1.html#win32>

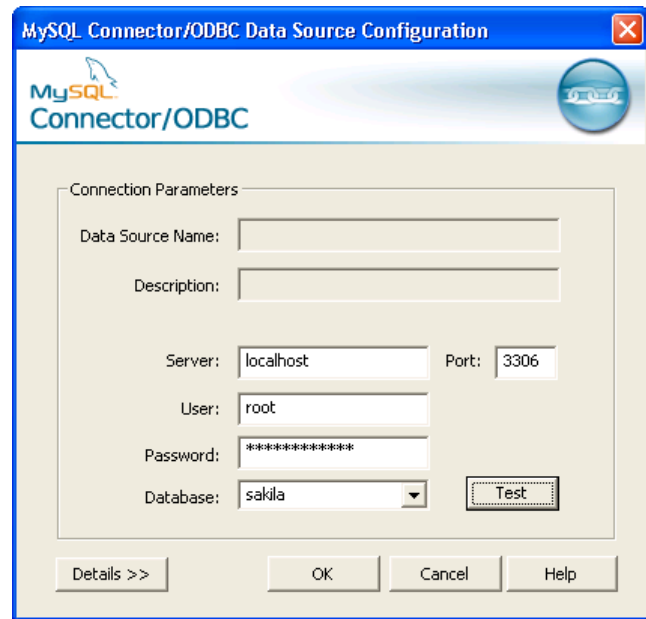
Run the installer. (For the purposes of this guide, a **typical** installation should suffice.)

Next configure the **Microsoft ODBC Data Source Administrator**. Select the **File DSN** tab and click **Add**.

Scroll down and locate the **MySQL ODBC 5.1 Driver** and type a name for the .dsn file. In this case we used **localhost**.

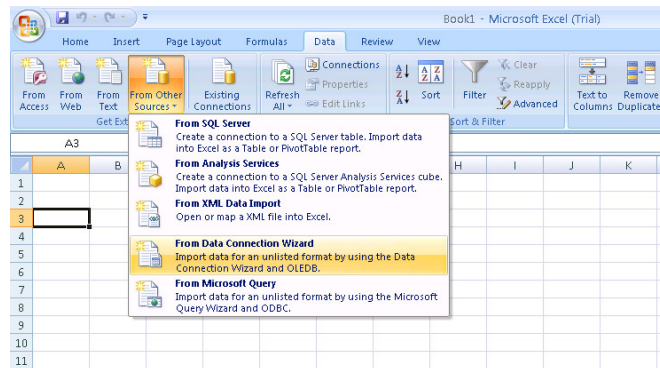


Next configure the Connector/ODBC connection. Here we specify **localhost** as the server, supply login credentials and choose **sakila** as the database.

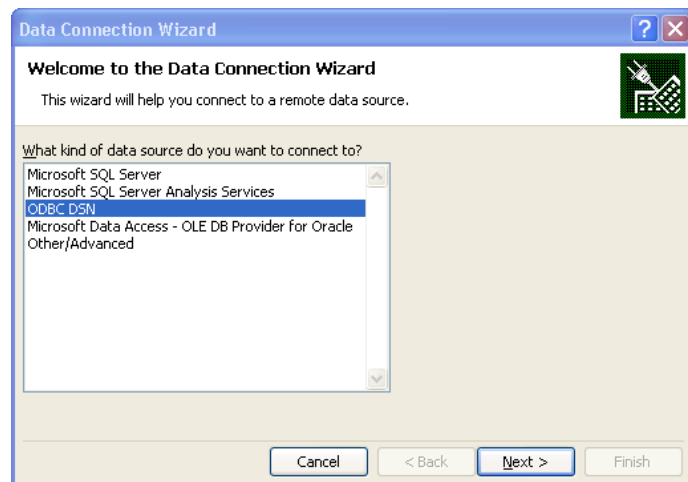


Import Data From MySQL Into Excel

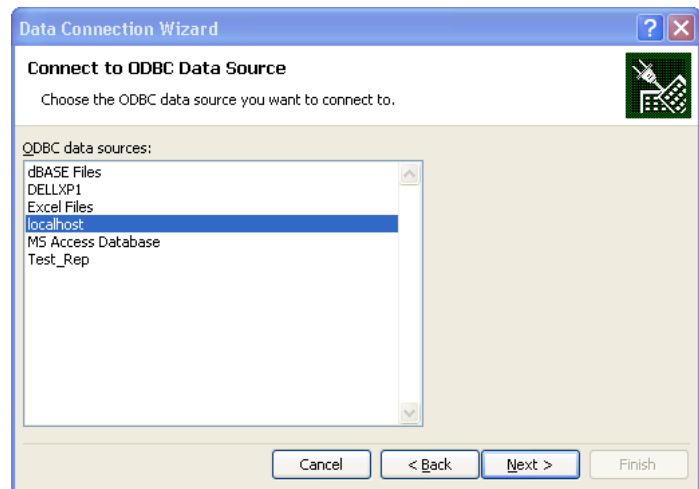
In **Excel** select the **Data** menu, then **From Other Sources** and then **From Data Connection Wizard**



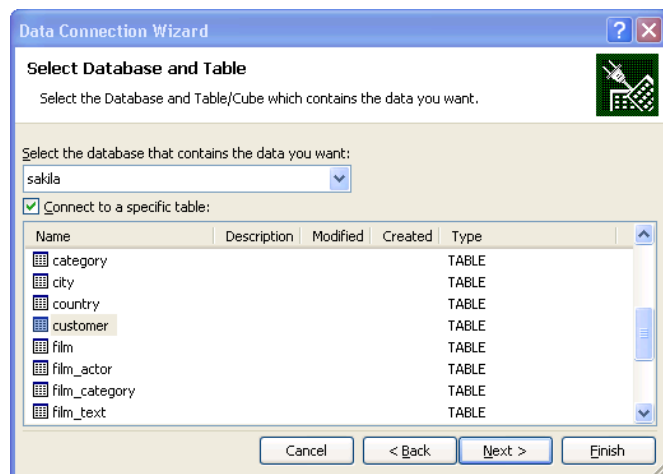
Select **ODBC DSN** in the **Data Connection Wizard**



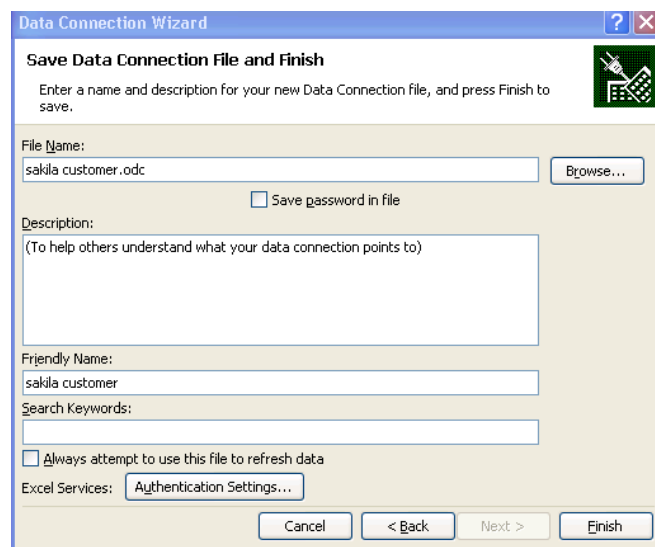
Select the data source you configured during the ODBC configuration. In this case we select **localhost**



Next we select the database and table, in this case the **Sakila** database and **customer** table



Finally add some meta data concerning the data connection and click **Finish**



You should now see the **customer** table data loaded into your **Excel** workbook.

customer_id	store_id	first_name	last_name	email	address_id	active	create_date	last_update
1	1	MARY	SMITH	MARY.SMITH@sakilacustomer.org	5	1	2/14/2006 22:04	2/15/2006 4:57
2	1	PATRICIA	JOHNSON	PATRICIA.JOHNSON@sakilacustomer.org	6	1	2/14/2006 22:04	2/15/2006 4:57
3	1	LINDA	WILLIAMS	LINDA.WILLIAMS@sakilacustomer.org	7	1	2/14/2006 22:04	2/15/2006 4:57
4	2	BARBARA	JONES	BARBARA.JONES@sakilacustomer.org	8	1	2/14/2006 22:04	2/15/2006 4:57
5	1	ELIZABETH	BROWN	ELIZABETH.BROWN@sakilacustomer.org	9	1	2/14/2006 22:04	2/15/2006 4:57
6	2	JENNIFER	DAVIS	JENNIFER.DAVIS@sakilacustomer.org	10	1	2/14/2006 22:04	2/15/2006 4:57
7	1	MARIA	MILLER	MARIA.MILLER@sakilacustomer.org	11	1	2/14/2006 22:04	2/15/2006 4:57
8	2	SUSAN	WILSON	SUSAN.WILSON@sakilacustomer.org	12	1	2/14/2006 22:04	2/15/2006 4:57
9	2	MARGARET	MOORE	MARGARET.MOORE@sakilacustomer.org	13	1	2/14/2006 22:04	2/15/2006 4:57
10	1	DOROTHY	TAYLOR	DOROTHY.TAYLOR@sakilacustomer.org	14	1	2/14/2006 22:04	2/15/2006 4:57
11	2	LISA	ANDERSON	LISA.ANDERSON@sakilacustomer.org	15	1	2/14/2006 22:04	2/15/2006 4:57
12	1	NAOYU	THOMAS	NAOYU.THOMAS@sakilacustomer.org	16	1	2/14/2006 22:04	2/15/2006 4:57
13	2	KAREN	JACKSON	KAREN.JACKSON@sakilacustomer.org	17	1	2/14/2006 22:04	2/15/2006 4:57
14	2	BETTY	WHITE	BETTY.WHITE@sakilacustomer.org	18	1	2/14/2006 22:04	2/15/2006 4:57
15	1	HELEN	HARRIS	HELEN.HARRIS@sakilacustomer.org	19	1	2/14/2006 22:04	2/15/2006 4:57
16	2	SANDRA	MARTIN	SANDRA.MARTIN@sakilacustomer.org	20	0	2/14/2006 22:04	2/15/2006 4:57
17	1	DONNA	THOMPSON	DONNA.THOMPSON@sakilacustomer.org	21	1	2/14/2006 22:04	2/15/2006 4:57
18	2	CAROL	GARCIA	CAROL.GARCIA@sakilacustomer.org	22	1	2/14/2006 22:04	2/15/2006 4:57
19	1	RUTH	MARTINEZ	RUTH.MARTINEZ@sakilacustomer.org	23	1	2/14/2006 22:04	2/15/2006 4:57
20	2	SHARON	ROBINSON	SHARON.ROBINSON@sakilacustomer.org	24	1	2/14/2006 22:04	2/15/2006 4:57
21	1	MICHELLE	CLARK	MICHELLE.CLARK@sakilacustomer.org	25	1	2/14/2006 22:04	2/15/2006 4:57
22	2	LAURA	RODRIGUEZ	LAURA.RODRIGUEZ@sakilacustomer.org	26	1	2/14/2006 22:04	2/15/2006 4:57
23	2	SARAH	LEWIS	SARAH.LEWIS@sakilacustomer.org	27	1	2/14/2006 22:04	2/15/2006 4:57
24	2	KIMBERLY	LEE	KIMBERLY.LEE@sakilacustomer.org	28	1	2/14/2006 22:04	2/15/2006 4:57
25	1	DEBORAH	WALKER	DEBORAH.WALKER@sakilacustomer.org	29	1	2/14/2006 22:04	2/15/2006 4:57
26	2	JESSICA	HALL	JESSICA.HALL@sakilacustomer.org	30	1	2/14/2006 22:04	2/15/2006 4:57
27	2	SHIRLEY	ALLEN	SHIRLEY.ALLEN@sakilacustomer.org	31	1	2/14/2006 22:04	2/15/2006 4:57
28	1	CYNTHIA	YOUNG	CYNTHIA.YOUNG@sakilacustomer.org	32	1	2/14/2006 22:04	2/15/2006 4:57
29	2	ANGELA	HERNANDEZ	ANGELA.HERNANDEZ@sakilacustomer.org	33	1	2/14/2006 22:04	2/15/2006 4:57

Export Data From Excel Into MySQL

Create a copy of the **customer** table in MySQL's **test** database using:

```
CREATE TABLE IF NOT EXISTS
customer_excel
LIKE sakila.customer
```

and name it **customer_excel**

```
C:\WINDOWS\system32\cmd.exe - mysql -uroot -p
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 21
Server version: 5.1.39-Community MySQL Community Server (GPL)

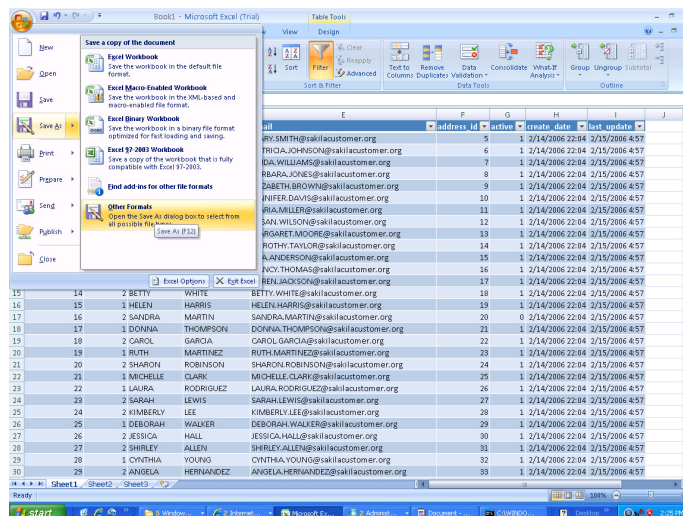
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use test;
Database changed
mysql> CREATE TABLE IF NOT EXISTS customer_excel LIKE sakila.customer;
Query OK, 0 rows affected (0.03 sec)

mysql> SHOW TABLES;
+-----+
| Tables_in_test |
+-----+
| customer_excel |
+-----+
1 row in set (0.00 sec)

mysql>
```

Create a **customer.csv** file from the customer data in Excel.



Import the local **customer.csv** file into MySQL using the **LOAD DATA LOCAL INFILE** statement

```

C:\WINDOWS\system32\cmd.exe - mysql -uroot -p
mysql>
mysql>
mysql> LOAD DATA LOCAL INFILE 'C:/customer.csv'
-> INTO TABLE customer_excel
-> FIELDS TERMINATED BY ','
-> LINES TERMINATED BY '\n';
Query OK, 599 rows affected, 1204 warnings (0.11 sec)
Records: 600 Deleted: 0 Skipped: 1 Warnings: 1200
mysql>

```

You can manually verify the row counts from the Excel workbook with the new **customer_excel** table and with the original **customer** table using the **SELECT COUNT(*)** statement

```

C:\WINDOWS\system32\cmd.exe - mysql -uroot -p
mysql>
mysql> LOAD DATA LOCAL INFILE 'C:/customer.csv'
-> INTO TABLE customer_excel
-> FIELDS TERMINATED BY ','
-> LINES TERMINATED BY '\n';
Query OK, 599 rows affected, 1204 warnings (0.11 sec)
Records: 600 Deleted: 0 Skipped: 1 Warnings: 1200

mysql> select count(*) from customer_excel;
+-----+
| count(*) |
+-----+
|      599 |
+-----+
1 row in set (0.00 sec)

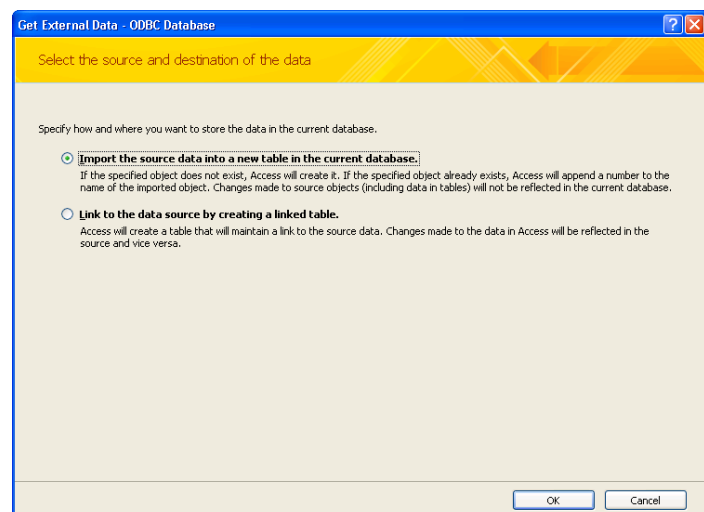
mysql> select count(*) from sakila.customer;
+-----+
| count(*) |
+-----+
|      599 |
+-----+
1 row in set (0.00 sec)

mysql>

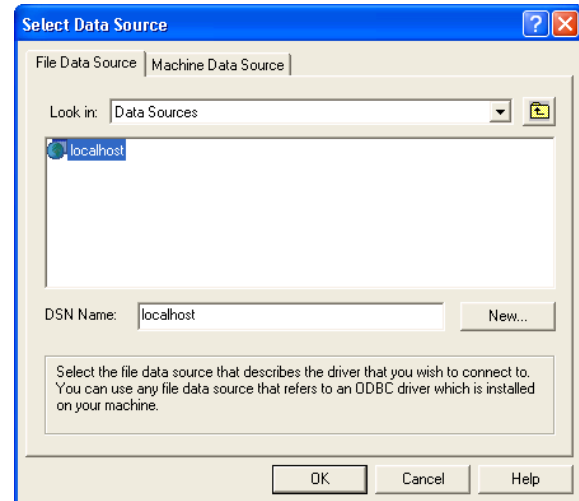
```

Import Data From MySQL Into Excel with Access

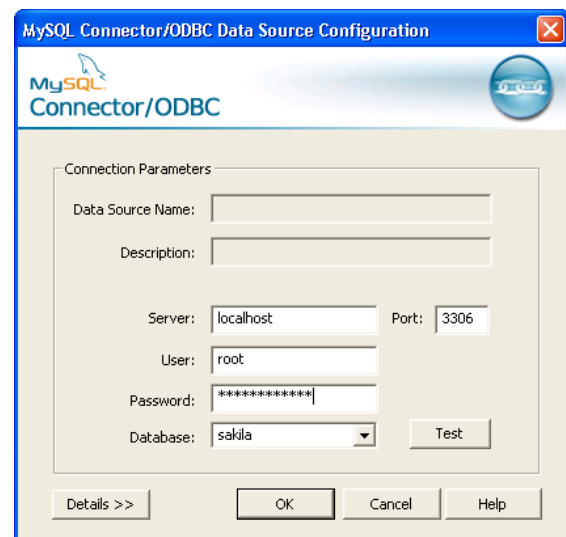
In **Access**, from the **External Data** menu select **More**, then **ODBC Database** and select **Import the source data into a new table in the current database**



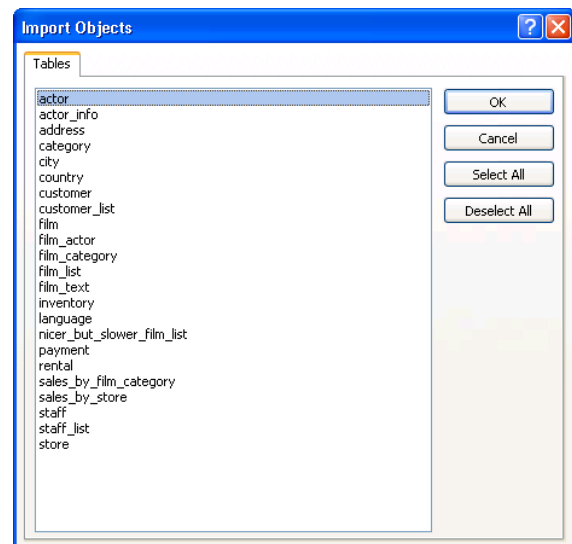
Select the **Data Source**, in this case **localhost**



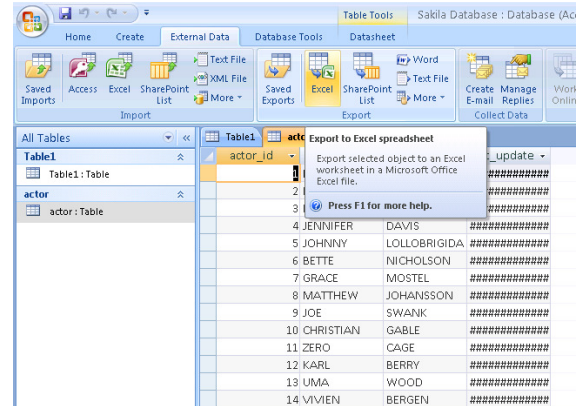
Specify the login credentials and database to connect to the **Data Source** and **database**, in this case **localhost** and **sakila**



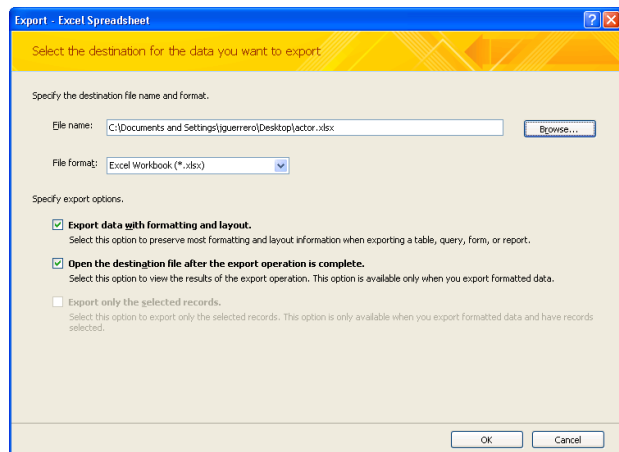
Select the table or tables to import, in this case **actor**



From the **External Data** menu select **Excel** from the **Export** group



Select the appropriate **Export – Excel Spreadsheet** options

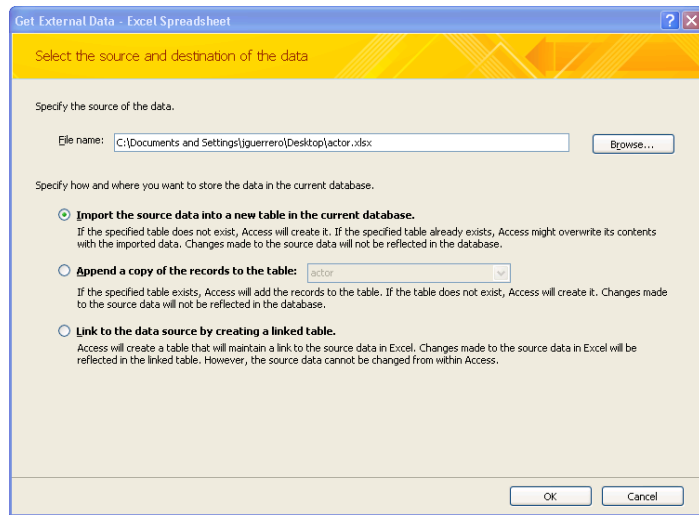


The data should now be visible in **Excel**, save this file with the name **actor.xls**

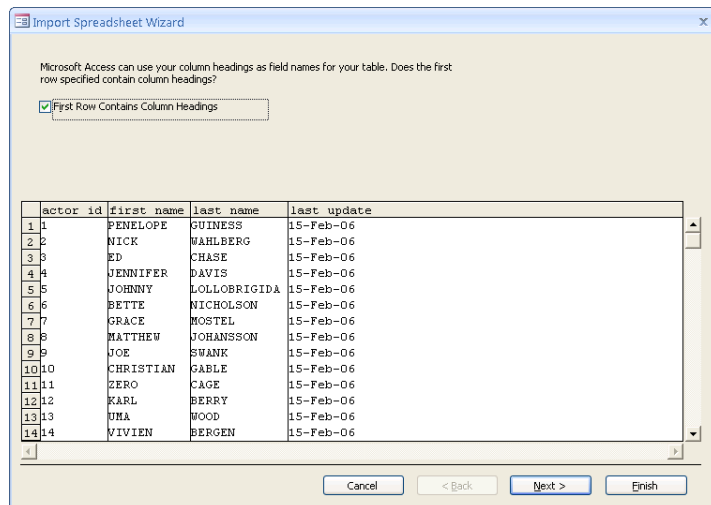
	A	B	C	D	E	F	G
	actor_id	first_name	last_name	last_update			
1	1	PENELOPE	GUINNESS	15-Feb-06			
2	2	NICK	WAHLBERG	15-Feb-06			
3	3	ED	CHASE	15-Feb-06			
4	4	JENNIFER	DAVIS	15-Feb-06			
5	5	JOHNNY	LOLLOBRIGIDA	15-Feb-06			
6	6	BETTE	NICHOLSON	15-Feb-06			
7	7	GRACE	MOSTEL	15-Feb-06			
8	8	MATTHEW	JOHANSSON	15-Feb-06			
9	9	JOE	SWANK	15-Feb-06			
10	10	CHRISTIAN	GABLE	15-Feb-06			
11	11	ZERO	CAGE	15-Feb-06			
12	12	KARL	BERRY	15-Feb-06			
13	13	UMA	WOOD	15-Feb-06			
14	14	VIVIEN	BERGEN	15-Feb-06			
15	15	CUBA	OLIVIER	15-Feb-06			
16	16	FRED	COSTNER	15-Feb-06			
17	17	HELEN	VOIGHT	15-Feb-06			

Export Data From Excel Into MySQL with Access

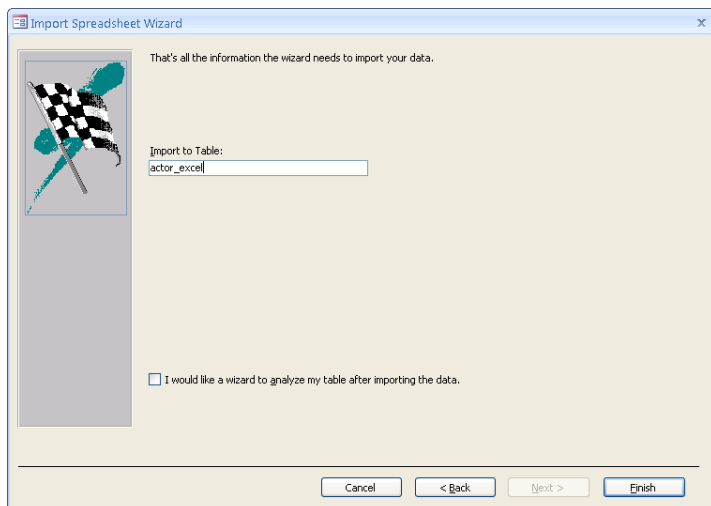
In **Access**, from the **External Data** menu, select **Excel** and browse for the location of the Excel file, in this case **actor.xls**



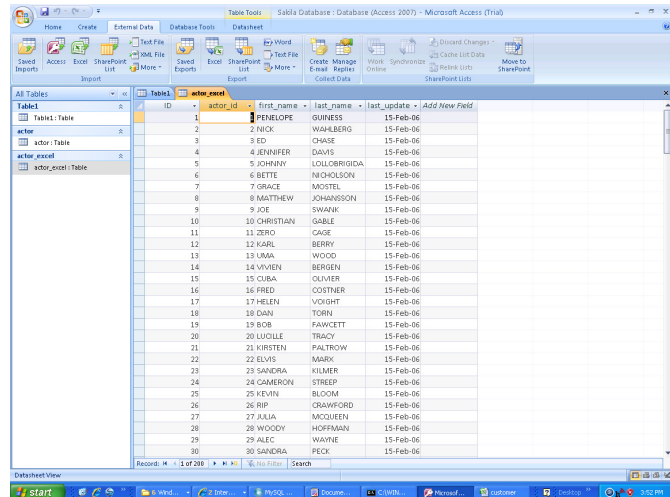
In the **Import Spreadsheet Wizard** verify the column headings, as well as any and primary key definitions



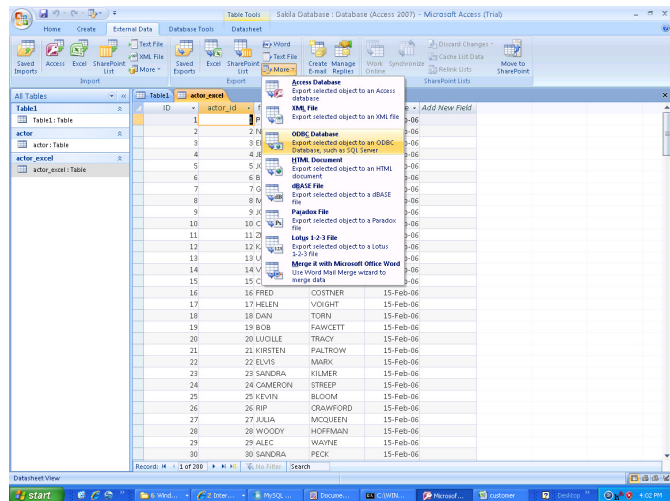
Name the table **actor_excel**



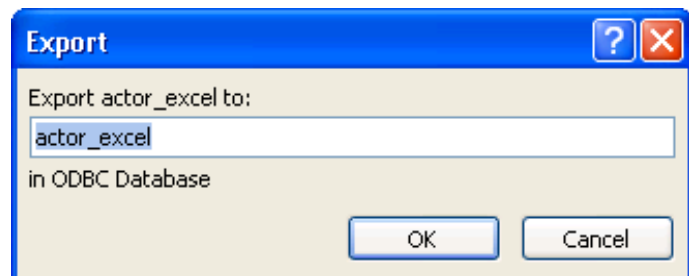
The table **actor_excel** should now be visible in



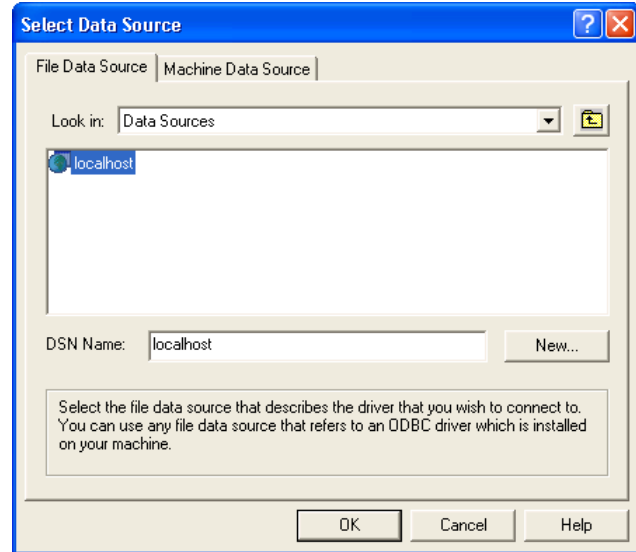
From the **External Data** menu select **More** from the **Export** group and select **ODBC Database**



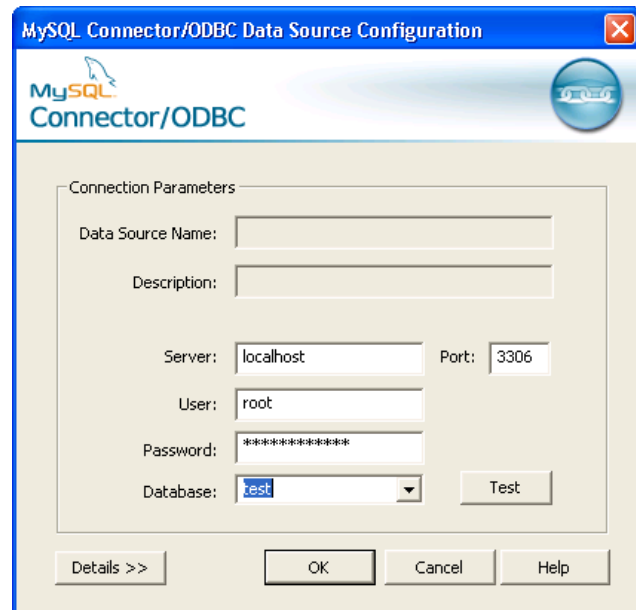
Export the table **actor_excel** to



In **Select Data Source**, select the **MySQL server**, in this case,

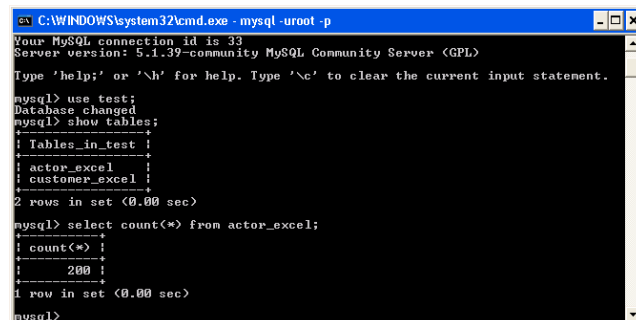


Specify the login credentials and database to connect to the **Data Source** and **database**, in this case **localhost** and **test**



Verify that was created in the test database with the **SHOW TABLES** statement

Verify the row count by executing **SELECT COUNT(*) FROM actor_excel** and compare the results to the **actor.xls** spreadsheet



MySQL on Windows Case Studies

Below are some examples of MySQL customers realizing lower TCO by running MySQL on Windows.

Adobe Relies on MySQL to Make Creative Professionals More Productive

Adobe Systems is one of the largest software companies and is the leading provider of creative tools for print, web, interactive, mobile, video and film. Adobe embeds MySQL into several Adobe Creative Suite 3 components, including Adobe Acrobat CS3, Adobe® Bridge CS3, and Adobe® Version Cue® CS3 so that workgroups can work more efficiently on complex projects. For more information please visit:

http://www.mysql.com/why-mysql/case-studies/MySQL_CaseStudy_Adobe.pdf

NetQoS Delivers Distributed Network Management Solution with Embedded MySQL

NetQoS delivers products and services that enable some of the world's most demanding enterprises to improve network performance. American Express, Barclays, Boeing, Chevron, Cisco, Citrix, DuPont, Sara Lee, and Schlumberger are among the corporations that rely on NetQoS performance management solutions to ensure consistent delivery of business critical applications, monitor application service levels, troubleshoot problems quickly, contain infrastructure costs, and manage user expectations. To find the right embedded database solution to fit its innovative product architecture, NetQoS evaluated everything from flat-files to proprietary databases. NetQoS found that MySQL provided the ideal combination of performance, reliability, and ease of administration on Windows. For more information please visit:

<http://www.mysql.com/why-mysql/case-studies/mysql-netqos-casestudy.pdf>

For a complete list of case studies and other resources concerning organizations making use of MySQL on Windows, please visit:

<http://www.mysql.com/customers/operatingsystem/?id=109>

Conclusion

In this paper we presented a visual guide on how to get started with importing and exporting data into Microsoft Excel. This can easily be accomplished natively with Excel or Access in combination with MySQL's ODBC Connector. The benefit of using MySQL in conjunction with Excel, means that data can be easily visualized, analyzed and manipulated in Excel and at the same time can be made available to multiple users in amore secure and reliable manner though a variety of front ends, whether they be Access or browser-based.

Resources

White Papers

<http://www.mysql.com/why-mysql/white-papers/>

Case Studies

<http://www.mysql.com/why-mysql/case-studies/>

Press Releases, News and Events

<http://www.mysql.com/news-and-events/>

Live Webinars

<http://www.mysql.com/news-and-events/web-seminars/>

Webinars on Demand

<http://www.mysql.com/news-and-events/on-demand-webinars/>

About MySQL

MySQL is the most popular open source database software in the world. Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, critical business systems and packaged software -- including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia, YouTube and Zappos.com. At <http://www.mysql.com>, Sun provides corporate users with commercial subscriptions and services, and actively supports the large MySQL open source developer community.

To discover how Sun's offerings can help you harness the power of next-generation Web capabilities, please visit <http://www.sun.com/web>.