

MySQL

Pronounced "my ess cue el" (each letter separately) and not "my SEE kwil". MySQL is an open source RDBMS that relies on SQL for processing the data in the database. MySQL provides APIs for the languages C, C++, Eiffel, Java, Perl, PHP and Python. In addition, OLE DB and ODBC providers exist for MySQL data connection in the Microsoft environment. A MySQL .NET Native Provider is also available, which allows native MySQL to .NET access without the need for OLE DB.

MySQL is most commonly used for Web applications and for embedded applications and has become a popular alternative to proprietary database systems because of its speed and reliability. MySQL can run on UNIX, Windows and Mac OS.

MySQL is developed, supported and marketed by MySQL AB. The database is available for free under the terms of the GNU General Public License (GPL) or for a fee to those who do not wish to be bound by the terms of the GPL.

Why Use MySQL?

- ▶ MySQL is secure
- ▶ MySQL has a growing number of interfaces
- ▶ MySQL is widely available
- ▶ MySQL has a sophisticated privilege system
- ▶ MySQL is available for a variety of platforms
- ▶ MySQL is supported by ODBC and PHP
- ▶ There is a large growing MySQL community

Some features...

Transactions

Flexible security system, including SSL support

Query caching

Replication

Full-text indexing and searching

Embedded database library*

* Using the embedded database library (libmysqld), you can include the full power of the MySQL database server into applications and electronics devices, without your end-user having any awareness of the underlying database. The embedded MySQL database is ideal for use behind the scenes in Internet appliances, public kiosks, turn-key hardware/software combination units, high performance Internet servers, self-contained databases distributed on CD-ROM, and more possibilities just waiting for you to invent them.

MySQL is secure

MySQL uses security based on Access Control Lists (ACLs) for all connections, queries, and other operations that a user may attempt to perform. There is also some support for SSL-encrypted connections between MySQL clients and servers.

MySQL has a good and growing number of interfaces

Currently available interfaces to MySQL:

Access 2000

MyODBC

MySQL Control Center

MySQLGUI

MySQL Connector/J (JDBC)

MySQL Connector/ODBC

MySQL is widely available

MySQL is free and is available for the following platforms:

Linux

Microsoft Windows

FreeBSD

Sun Solaris

IBM's AIX

Mac OS X

HP-UX

AIX

QNX

Novell NetWare

SCO OpenUnix

SGI Irix

Dec OSF.

MySQL has a sophisticated privilege system

This is important as you can give people exactly the permissions required in order to do what they are allowed to do, where they are allowed to do it and from where they may access this data.

The privilege system is beyond the scope of this MySQL presentation.

Connection to MySQL

You can connect to a MySQL database server from all of the major platforms, using nearly any programming language, with the standard threadsafe client library or one of the products in the “Connector” family of database drivers.

“Connector” family is the ODBC JDBC database connectors.

Storage choices

MySQL database server's unique independent storage engines let you choose the type of database storage that is most appropriate for your particular needs. If you need row-level locking and transaction support, you can use the InnoDB storage engine. If your application doesn't require transactions, you can use the MyISAM storage engine for maximum performance.

In Benchmarks MySQL runs about the same speed as MsSQL

If anyone would like to see the benchmarks I have images in a folder on my desktop. Remind me after the next slide and I'll show them to you.

UpcomingMySQLFeatures

“We have a top-notch database server, but we're not sitting still. We have a large team of developers working to implement new features.”

MySQL site

Upcoming MySQL Features

Character set handling, with full Unicode support

While earlier versions of the database server can be set up to support specific character sets, version 4.1 adds support for multiple character sets which can be set at the server, database, table, or field level, as well as improved support for converting between character sets. New character sets have been added for storing Unicode data in the UCS2 and UTF8 encodings.

Upcoming MySQL Features

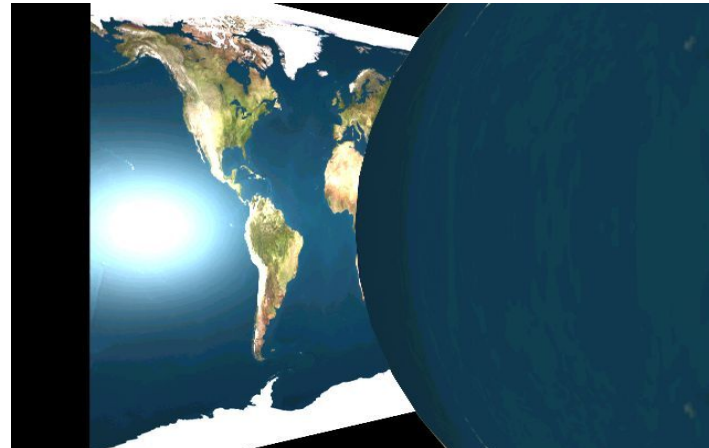
Expanded support for subqueries

Subqueries allow you to use the result of one query as a component of a larger query. The MySQL server already supports some forms of this technique, such as `INSERT INTO ... SELECT ...`, and this support will be expanded in version 4.1 to include nested `SELECT` queries, which is one of the most-requested features from our users.

UpcomingMySQLFeatures

GIS (Geometrical data)

Version 4.1 includes support for a subset of the SQL92 with Geometry Types environment proposed by the Open GIS Consortium. This allows for efficiently storing and manipulating spatial data, including geographic data.



UpcomingMySQLFeatures

Multi-master replication

Multi-master replication will allow for a slave database server to track data in multiple master databases. Support for this feature will be included in version 5.0.

UpcomingMySQLFeatures

Stored procedures and triggers

Stored procedures allow you to create functions and subroutines that run on the server. This makes it possible to grant access to specific queries without granting carte blanche access to the underlying data, or validate data in the database before it is stored. Triggers can be configured to fire when certain conditions are fulfilled.

UpcomingMySQLFeatures

The MySQL database server will provide hooks for implementing stored procedures in multiple languages, as well as including support for the Persistent Stored Modules syntax defined as part of ANSI SQL-99.

Support for stored procedures and triggers will be introduced in version 5.0.

UpcomingMySQLFeatures

Views

Views allow you to configure alternative views of existing tables without changing the underlying table structure. They can be used to grant limited access to tables, or make it easier to construct certain types of queries. Views are currently scheduled to be supported in version 5.1.

There is a large growing MySQL community

MySQL community occurs in different forms.

There are numerous sources that directly relate to MySQL.

Being that MySQL wasn't designed to be used in a vacuum, many multi tool projects and communities surrounding the projects exist using MySQL as a tool used with one or more other tools.

Many projects prefer to use MySQL as the database server component. To participate in these projects, or even to use their code without modification you must make use of the MySQL database server. If for no other reason than to explore these projects people should get access to a MySQL database.