

# MySQL for Beginners

Electronic Presentation

SQL-4401 Rev 2.1

D61918GC10  
Edition 1.0  
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# MySQL® for Beginners

*Revision 2.1*

# Time for Individual Presentations!

- What is your background?
    - Your name and your organization
    - How does your organization use MySQL?
  - Why are you here?
    - What do you expect from the course?
    - What do you want to learn?
- Have experience using MySQL?
  - Have experience from other SQL dialects?
  - Have installed MySQL yourself?
  - Use MySQL under Linux? Windows? Solaris? MacOSX? Other?
  - Use MySQL 3.21? 3.22? 3.23? 4.0? 4.1? 5.0? 5.1?
  - Use MySQL with PHP? Perl? Java? C? ODBC? Others?
  - Are you MySQL Certified? Which certifications?

# Practical Checklist

- Participant list -- email addresses -- checkup email
- Breaks -- timing, duration
- Where are the toilets/restrooms?
- Lunch arrangements
- Time allotted for exercises -- Solutions
- When does the day end? Can you stay longer?
- When do the days begin? Can you come earlier?
- Evaluation forms

# Slide Format (Topic)

- Presentation sub-topics
  - More sub-topic information

Topics and Sub-Topics, presented in detail by instructor, Following Student Guide content

Course Name and Version

```
shell> mysql -h training.mysql.com -u wld world
```

Code Examples

Current Chapter Title

Current <chapter.section> Numbers and Title

# Course Objectives (1/2)

- List the features and benefits of MySQL
- Find information about products, support and training
- Install and start the MySQL server
- Explain the basics of relational databases
- Distinguish the SQL language from MySQL language extensions
- Explain data/column types with regard to efficient database design
- Inspect design, structure and content of databases
- Design and Create an efficiently structured database
- Retrieve data using the SELECT statement

## Course Objectives (2/2)

- Troubleshoot typical warnings and errors
- Modify and delete a database
- Modify and delete table row data
- Use data aggregation in queries
- Combine data from multiple tables using JOIN
- Write subqueries
- List simple functions (String, Date, Numerical)
- Understand the primary methods for exporting and importing data
- Describe MySQL connectors and their features
- Explain MySQL storage engine concepts



# Course Chapter Map



**1. INTRODUCTION**

**2. MySQL CLIENT/SERVER MODEL**

**3. DATABASE BASICS**

**4. DATABASE DESIGN**

**5. DATABASE CREATION**

**6. BASIC QUERIES**

**7. DATABASE MAINTENANCE**

**8. DATA MANIPULATION**

**9. FUNCTIONS**

**10. JOINING TABLES**

**11. EXPORTING AND IMPORTING DATA**

**12. SUBQUERIES**

**13. SUPPLEMENTAL INFORMATION**

**14. CONCLUSION**

# Learning Objectives

- Explain the origin and status of the MySQL product
- List the MySQL products and professional services
- Describe the MySQL Enterprise subscription
- List the currently supported operating systems
- Describe the MySQL Community web page
- Describe the MySQL Certification program
- List all the available MySQL courses

# MySQL Overview

- Relational Database Management System Program Suite
- World's most popular open source database
  - Fastest growing with over 70,000 downloads per day
- Originally developed by MySQL AB (Sweden)



**MySQL is installed on every  
continent in the world  
(Yes, even Antarctica!)**

# Sun Acquisition of MySQL






- Acquired by Sun Microsystems in 2008
  - Giving MySQL the considerable resources of a major mainstream company
- Sun and MySQL together provide powerful, global product and services
  - Enterprise class support 24x7x365
  - More resources to draw from
  - More platform choices now available
- Both companies are strong open source supporters



**Sun/MySQL Mission:**

***Make superior database software available and affordable to all!***

# You Are in Good Company!

 <p><b>Web / Web 2.0</b></p>	 <p><b>OEM / ISV's</b></p>
 <p><b>On Demand, SaaS, Hosting</b></p>	 <p><b>Telecommunications</b></p>
 <p><b>Enterprise 2.0</b></p>	

Open-source is powering the World!

# MySQL Database Server Products

- Enterprise Server
  - Enterprise-grade database
- Community Server
  - Database server for open source developers
- Embedded Database
  - Database server for OEMs/ISVs to bundle cost-effectively
- Cluster
  - Fault tolerant database clustering architecture
  - Carrier-grade availability and performance



# MySQL GUI Tools

- Graphical User Interfaces to your MySQL database
- EOL (end-of-life) for MySQL GUI Tools Bundle
  - **MySQL Migration Toolkit**
    - Migration GUI Wizard
  - **MySQL Administrator**
    - Administration console
  - **MySQL Query Browser**
    - Create databases, execute and optimize SQL queries
- MySQL Workbench will contain the above GUI features starting with the 5.2 revision
  - Added to the existing Workbench features



# Other MySQL Tools

- MySQL Workbench
  - Visual database design tool
    - Used to efficiently design, manage and document databases
  - Available in two editions
    - Community edition
    - Standard edition



- MySQL Proxy
  - A program that communicates between a client and a MySQL server
    - Can monitor, analyze or transform communication





# MySQL Connectors

- MySQL Developed Connectors
  - MySQL C API
  - MySQL Connector/ODBC
  - MySQL Connector/J
  - MySQL Connector/NET
  - MySQL Connector/C
  - MySQL Connector/C++
- Developed by Community
  - PHP
  - Perl
  - Python
  - Ruby
  - C++ Wrapper

# Solutions for Embedding MySQL

- MySQL also provides libraries to embed a database
- libmysqld
  - Embedded edition of the **mysqld** server program wrapped in a shared library
  - Allows the MySQL to be embedded in C programs
- MySQL MXJ
  - A JAR wrapper around **mysqld** binaries
  - Allows java programs and J2EE environments to instantiate (and install) a MySQL server

# MySQL Services

- MySQL Training
  - Comprehensive set of MySQL training courses
- MySQL Certification
  - High quality certification for MySQL Developers and Database Administrators
- MySQL Consulting
  - Full range of consulting services from start-up to optimization
- MySQL Support
  - Community
  - Enterprise (and other levels of purchased support)

# MySQL Enterprise Subscription

- Annual offering
- Access to Enterprise Server and other premium products
- Enterprise-grade software, support and services
- Highest level of reliability, security and availability
- Pro-active services help eliminate problems *before* they occur



# MySQL Enterprise Server

- Most reliable, secure, updated version of MySQL
- Updates and Service Packs
- Emergency Hot Fix builds
- Drivers (Connectors)
- Many different supported platforms



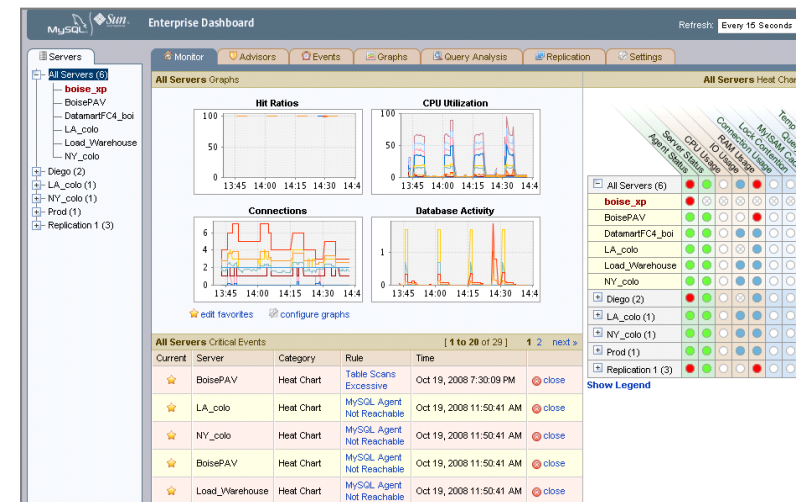
# MySQL Enterprise Support

- 24x7 Production-level support
- Flexible service levels available
- High priority problem resolution
- Consultative Support
- Technical Account Manager (TAM)
- Online Knowledge Base



# MySQL Enterprise Monitor

- Web-based monitoring and advising system
- Virtual DBA assistant
- Runs completely within corporate firewall
- Principle features:
  - Enterprise Dashboard
  - Server/group management
  - “At-a-glance” monitoring
  - MySQL & custom advisors/rules
  - Advisor rule scheduler
  - Customizable thresholds & alerts
  - Events and Alert history
  - Specialized scale-out assistance
  - Query Analyzer



# Obtaining a MySQL Enterprise Subscription

- Contact sales personnel
- Purchase from our website
  - <https://shop.mysql.com/enterprise/>
- 30 day trial
  - Limited features
  - <http://www.mysql.com/trials/>

## Contact Sales



USA - Toll Free:



 +1-866-221-0634 

USA - From abroad:



 +1-208-327-6494 

USA - Subscription Renewals:


 +1-866-830-4410 



Latin America:  +1 ... 



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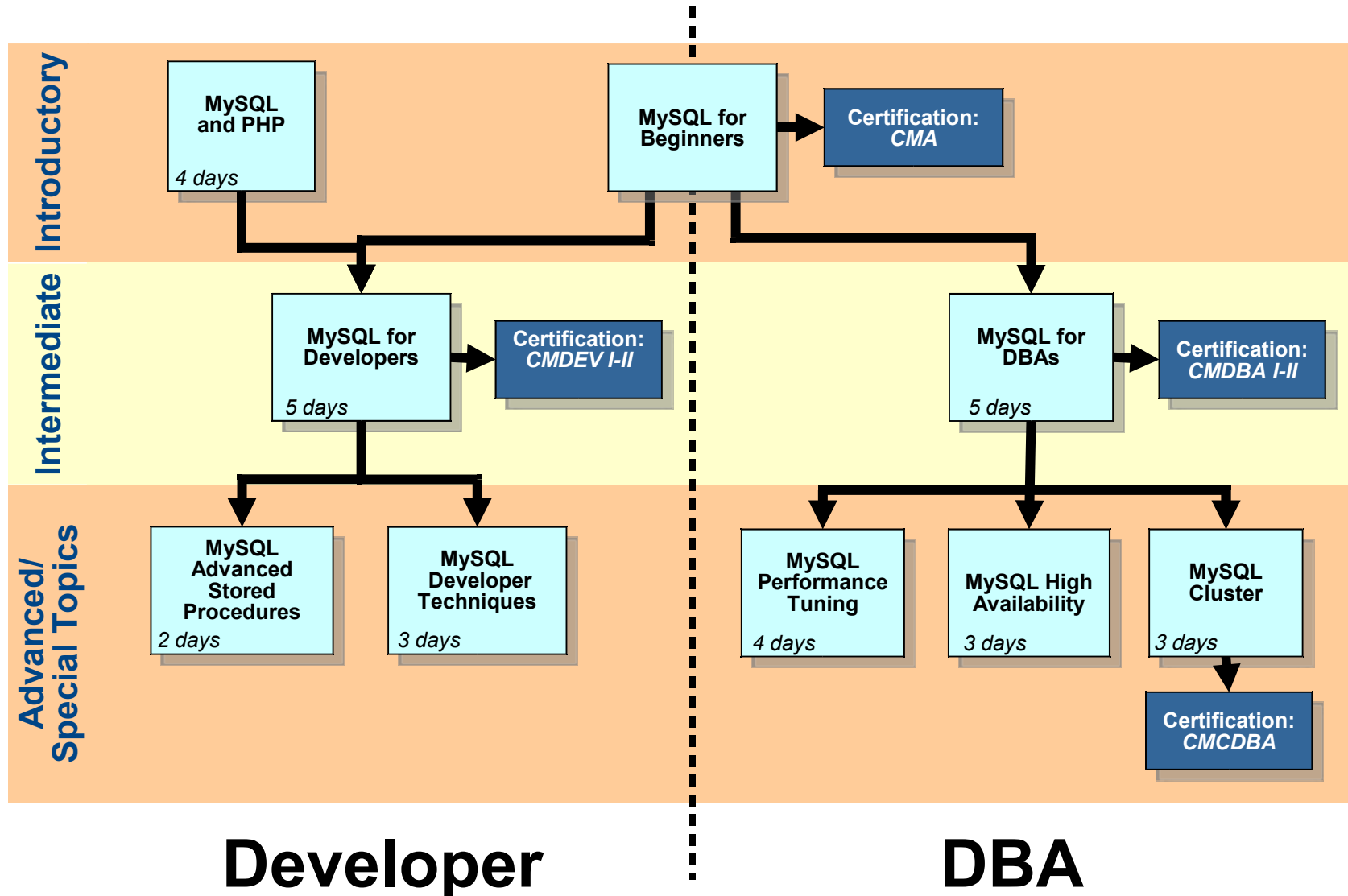
# MySQL Supported Operating Systems

- More than 20 platforms
- Control and flexibility for users
- Currently available for MySQL download:
  - Windows (multiple)
  - Linux (multiple)
  - Solaris
  - FreeBSD
  - Mac OS X
  - HP-UX
  - IBM AIX and i5
  - Open BSD
  - SGI Irix
  - Novell NetWare
  - Source Code
  - Special Builds

# Certification Program Overview

- MySQL certifications available
  - Certified MySQL Associate (CMA)
  - Certified MySQL 5.0 Developer (CMDEV)
  - Certified MySQL 5.0 Database Administrator (CMDDBA)
  - Certified MySQL Cluster DBA (CMCDBA)
- Certification web page
  - <http://www.mysql.com/certification/>
- Exam administration
  - Administered in several locations world-wide

# Curriculum Paths



# Virtual Classroom Classes



Classes are continually being added. Check our website for updates!

Introductory

**PHP Elements**  
4 hours

**MySQL Workbench**  
4 hours

**MySQL Enterprise Monitor**  
4 hours

Intermediate

**MySQL Transactions**  
4 hours

**MySQL Stored Procedure Fundamentals**  
4 hours

**MySQL Storage Engines**  
4 hours

**MySQL Partitioning**  
4 hours

Advanced/  
Special Topics

**Writing MySQL UDFs**  
2x4 hours

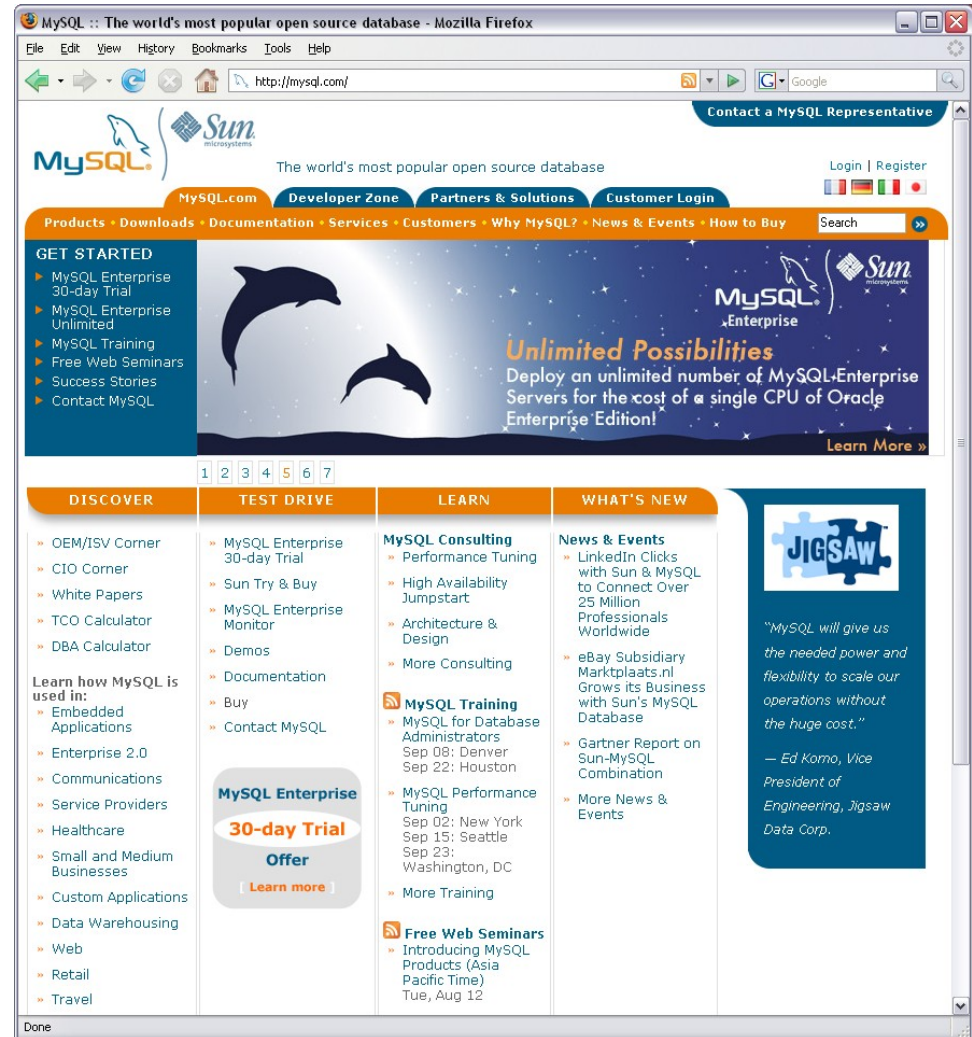
**MySQL Stored Procedure Techniques**  
4 hours

**Developer**

**DBA**

# MySQL Website

- <http://www.mysql.com/>



# MySQL Community Web Page (1/2)

- Developer Zone
- <http://dev.mysql.com/>



## MySQL Community Web Page (2/2)

- Current product/service promotions
- Get Started with MySQL
- Developing with...
- MySQL Librarian
- MySQL Server Community Edition
- New Releases
- Software Previews
- What's New
- MySQL Training
- MySQL Quickpoll
- Stay Connected
- Resources

# MySQL Online Documentation

- MySQL Reference Manual
- Excerpts from the Reference Manual
- MySQL GUI Tools Manuals
- Expert Guides
- MySQL Help Tables
- Example Databases
- Meta Documentation
- Community Contributed Documentation
- Printed Books
- Additional Resources





# Installing MySQL

- Use the MySQL website to download
  - <http://dev.mysql.com/downloads>
- Several different platforms are supported
- “Windows” used for this course



# Installing 'world' Database

- MySQL provides three example databases
- Can be downloaded from our website
- '**world**' database will be used for demonstration and exercises in this course



# Chapter Summary

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