

# MySQL & PostgreSQL

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# Agenda

- Introduction
- History
- Licensing
- Features
- Commercial DB Engines vs Open Source DB Engines
- Demonstration with XAMPP



# Introduction



[www.postgresql.org](http://www.postgresql.org)

[WWW.mysql.org](http://WWW.mysql.org)



# Introduction -MySQL & Postgresql

## usage

- BioPharma
- Defense
- e-Commerce
- Education
- Energy
- Finance
- Gaming
- Travel
- Government
- Healthcare
- Manufacturing
- Media
- Open Source Projects
- Retail
- Technology
- Telecom

# Introduction-MySQL& Postgres users





PostgreSQL

MYSQL



**How it All Began ...**

# History-PostgreSQL

University Of California  
Berkley -1986

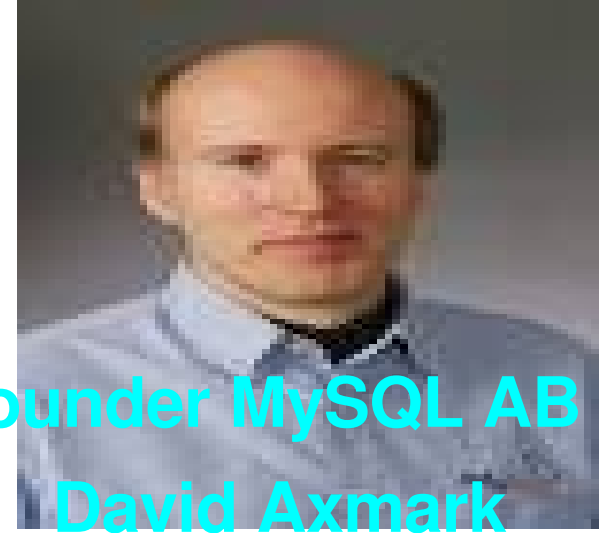
POSTGRES project

Prof. Michael Stonebraker



# History -MySQL

- mSQL project
- MySQL -1995 may
- MySQL first Windows Release -1998
- Version 3.23: beta from June -2000
- production release January - 2001
- Version 4.0: beta August – 2002
- Version 4.1 (r-trees, subqueries) March -2003
- Version 5.0: beta - 2005 (cursors, stored procedures, triggers, views, XA transactions)



Founder MySQL AB  
David Axmark



# Licensing - MySQL

- **GNU General Public License (GPL) for GPL projects** -If your project is 100 % GPL in its distribution
- **Commercial License for commercial applications**-If you **DON'T** want to distribute the source code for your application.

# Licensing - PostgreSQL

- **Berkley License** - It allows for any use as long as a copy of the Berkley License is included with it.
- Much Simpler

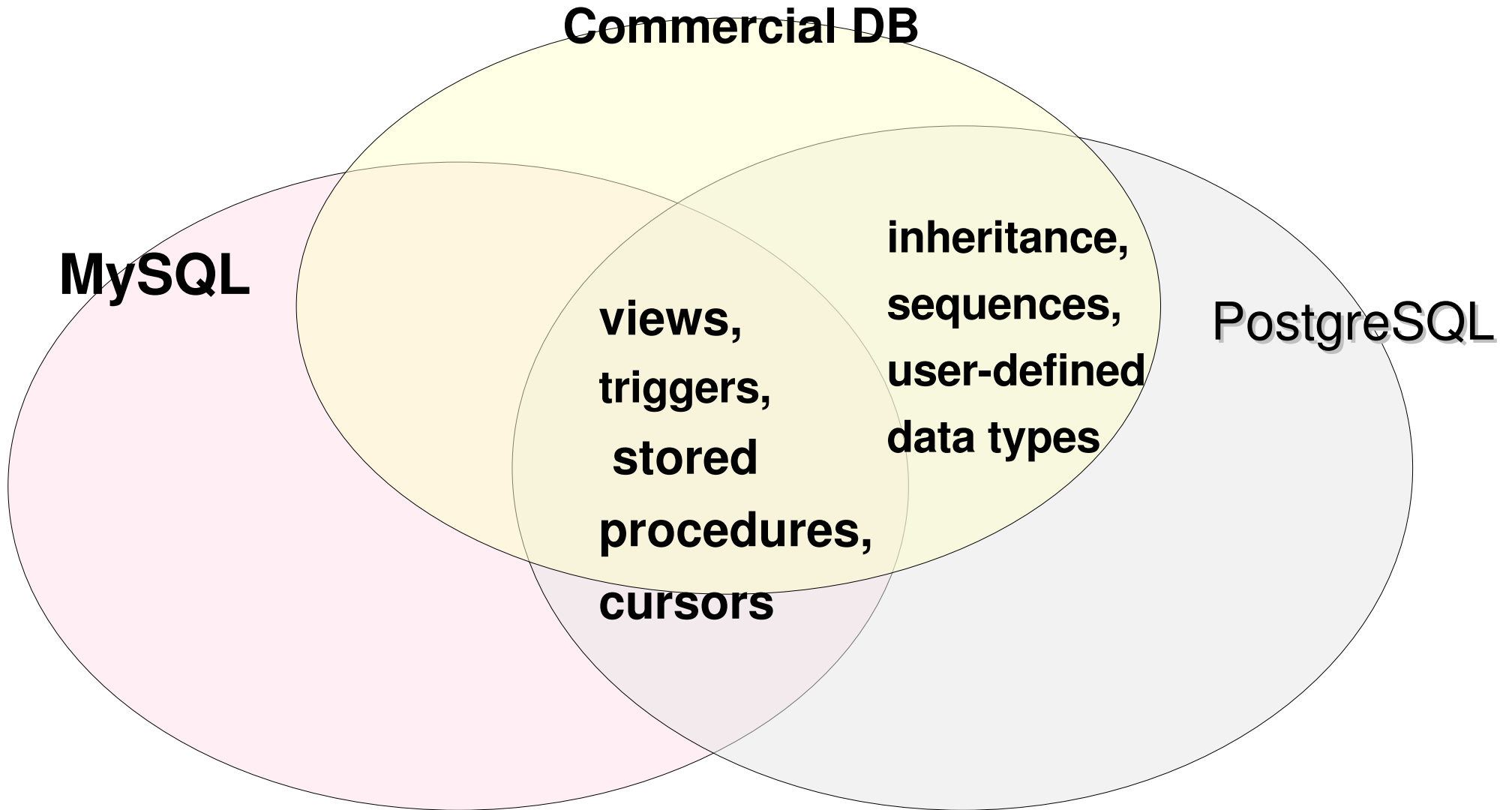
# Features -Storage

- **MySQL- Multiple Storage Engines**
- **Native storage engines**  
(MyISAM, Falcon, Merge, Memory (heap), Federated, Archive, CSV, Blackhole, Cluster)
- **Partner-developed storage engines** (InnoDB, solidDB, NitroEDB, BrightHouse)
- **Community-developed storage engine**
- **Custom storage engine**
- **PostgreSQL-Single data Storage mechanism**

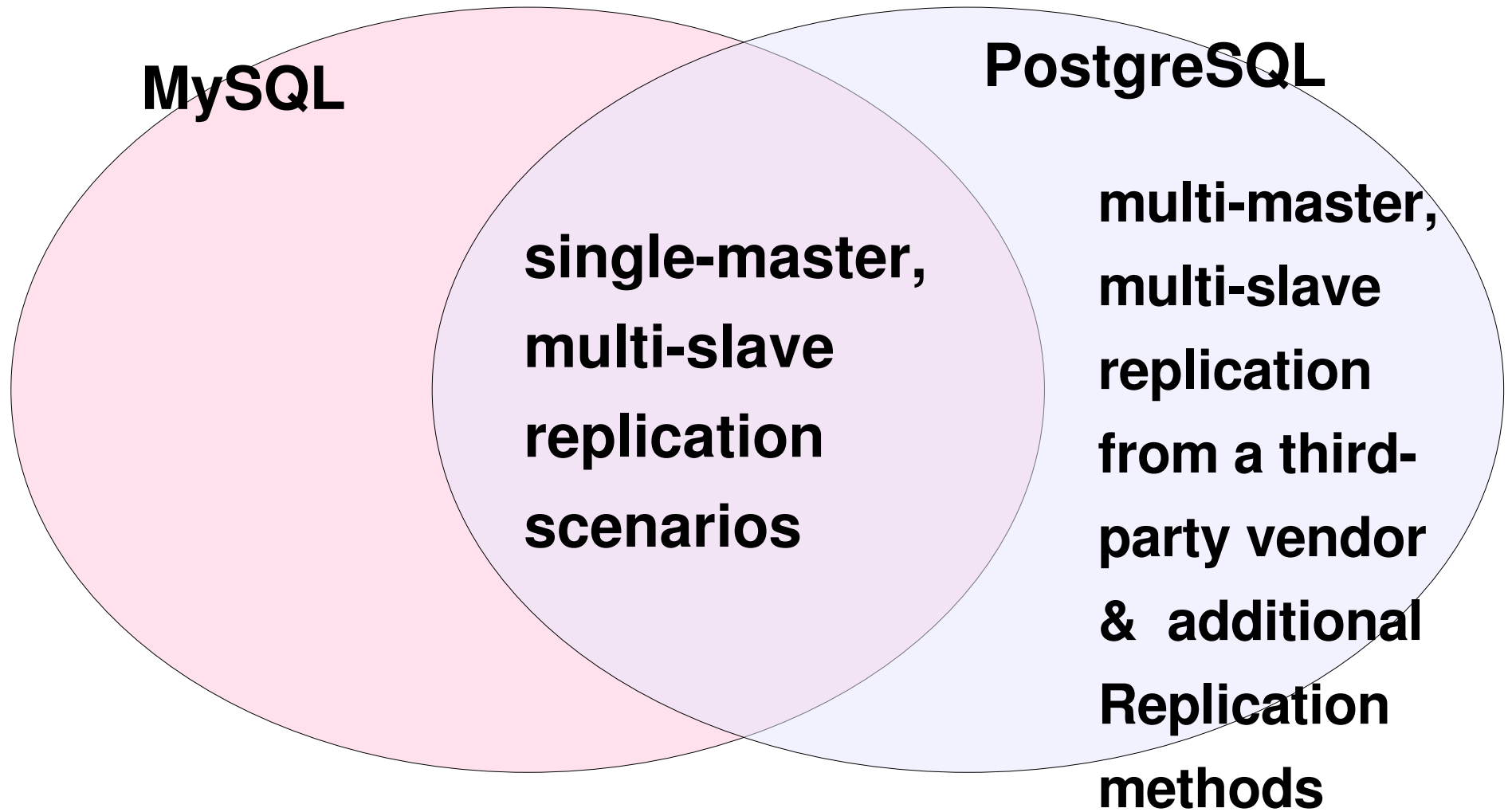
# Feature -Data Integrity

- MySQL and PostgreSQL are **ACID** ( **A**tomic, **C**onsistent, **I**solated, **D**urable )Compliant.
- Both Support partial rollbacks of transactions and deadlocks.
- MySQL - Row-level locking
- PostgreSQL -Multi Version Concurrency Control (**MVCC**) default or RLL optional

# Features-The Advanced Features



# Features -Replication



# Features-Database Interface

## Methods

- Support ODBC and JDBC for network connectivity
- Native database access methods
- Authentication for the database
- Both support access via C/C++, Java, Perl, Python, and PHP

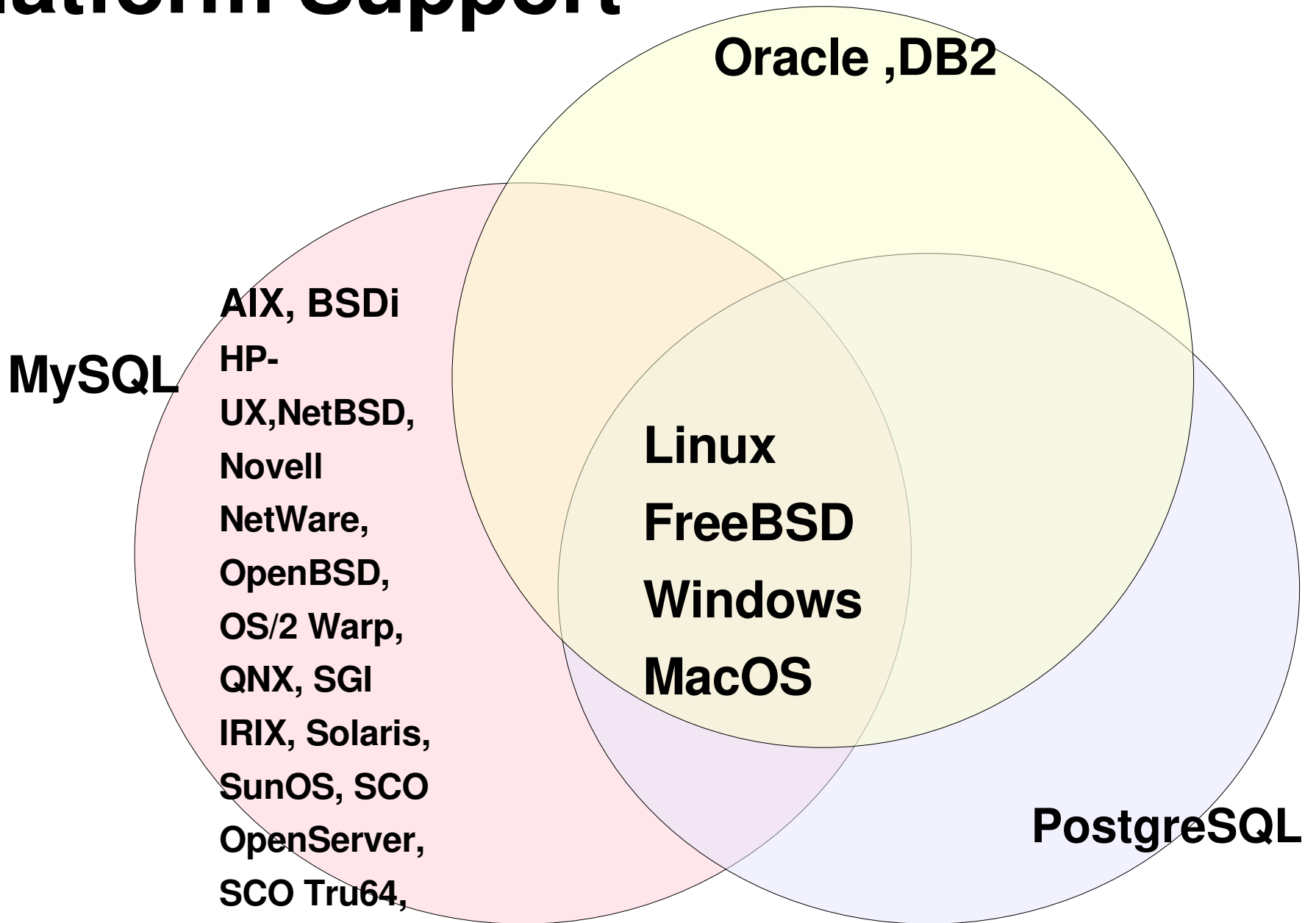
# More Features

- **Stored Procedures and Triggers** -PL/pgSQL, is very similar to Oracle's PL/SQL, PostgreSQL's procedures and triggers can be written in PL/TCL, PL/perl, PL/python
- **Indexes**- Single column, multi-column, unique, and primary key indexes, MySQL supports full text indexes out of the box
- **Data Types**-Large Objects Data Types, GIS, PostgreSQL -user define data type



- **GUI Tools**-Tools to manage DB,Natively on your operating system or Web-based tools
- **Data Migration**-Tools to migrate data from commercial databases
- **Backup**- come with scripts to facilitate a simple text dump of your database data and its schema,simple database recovery-->soft failures,database crashes or unexpected power failures

# Platform Support



# Commercial DB vs

# MySQL & PostgreSQL

## Prices

Product	Grade
MySQL	Very Good
PostgreSQL	Very Good
Oracle	Poor

MySQL:	Free
Oracle8:	Number of processors * number of MHz * USD 15
Postgres:	Free
<b>Price of the smallest multi-user installation</b>	
MySQL:	Free
Oracle8:	5 * USD 160
Postgres:	Free

# Commercial DB vs MySQL & Postgres

Category	Problem	Importance		Assessment		
		Central database	Lab-participants	MySQL	Oracle8	Postgres
<b>Elementary features</b>	Basic data types	C	C	B	C	A
	SQL	B	B	C	B	B
	Declarative constraints	B	B	C	A	A
	Programming abstractions	A	C	D	A	C
	Generation of ids	C	C	C	A	A
	National chars	B	C	B	A	B
<b>Transactions</b>	Transactions	A	C	D	A	A
	Locks	A	C	D	A	A
	Multiuser access	A	D	C	A	C
<b>Programming in DB</b>	Stored procedures and triggers	B	C	D	A	A
<b>Administr</b>	Access control	B	D	A	A	B
	Backup	A	C	C	A	C
	Data					

# Commercial DB vs MySQL & Postgres

Category	Problem	Importance		Assessment		
		Central database	Lab-participants	MySQL	Oracle8	Postgres
<b>Performance and VLDB</b>	Structures supporting optimization	B	D	D	A	B
	Support for OLAP	B	D	D	A	D
	Allocation of the disk space	A	C	C	A	C
	Size limits	A	B	B	A	C
	VLDB implementations	A	C	D	A	B
<b>Distributed databases</b>	Access to multiple databases	C	D	C	A	C
	Heterogeneous systems support	B	D	D	B	D

# Commercial DB vs MySQL & Postgres

Category	Problem	Importance		Assessment		
		Central database	Lab-participants	MySQL	Oracle8	Postgres
<b>Special data types</b>	Post-relational extensions	C	C	D	A	B
	Support for special data types	C	C	D	A	C
<b>Application development and interfaces</b>	Embedded SQL	C	C	D	A	B
	Standard interfaces	B	C	B	A	B
	Additional interfaces	A	A	A	A	A
	Web technology	A	A	B	A	B
	XML	B	C	D	A	D
	CASE	B	C	D	A	D
<b>Reliability</b>	Recovery	A	B	C	A	C
<b>Commercial issues</b>	Prices	C	A	A	D	A
	Technical support	A	B	C	B	D
	Position on the market	A	C	D	A	D

# Using open source DB in Developments .....

## Prerequisites

1. **XAMPP** ([www.apachefriends.org](http://www.apachefriends.org))

installed

2. **jdk 1.4 / +**

3. Eclipse --->PHPEclipse([www.eclipse.org](http://www.eclipse.org))

**Q & A**



PostgreSQL

?



MySQL



**Thank You!**

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