

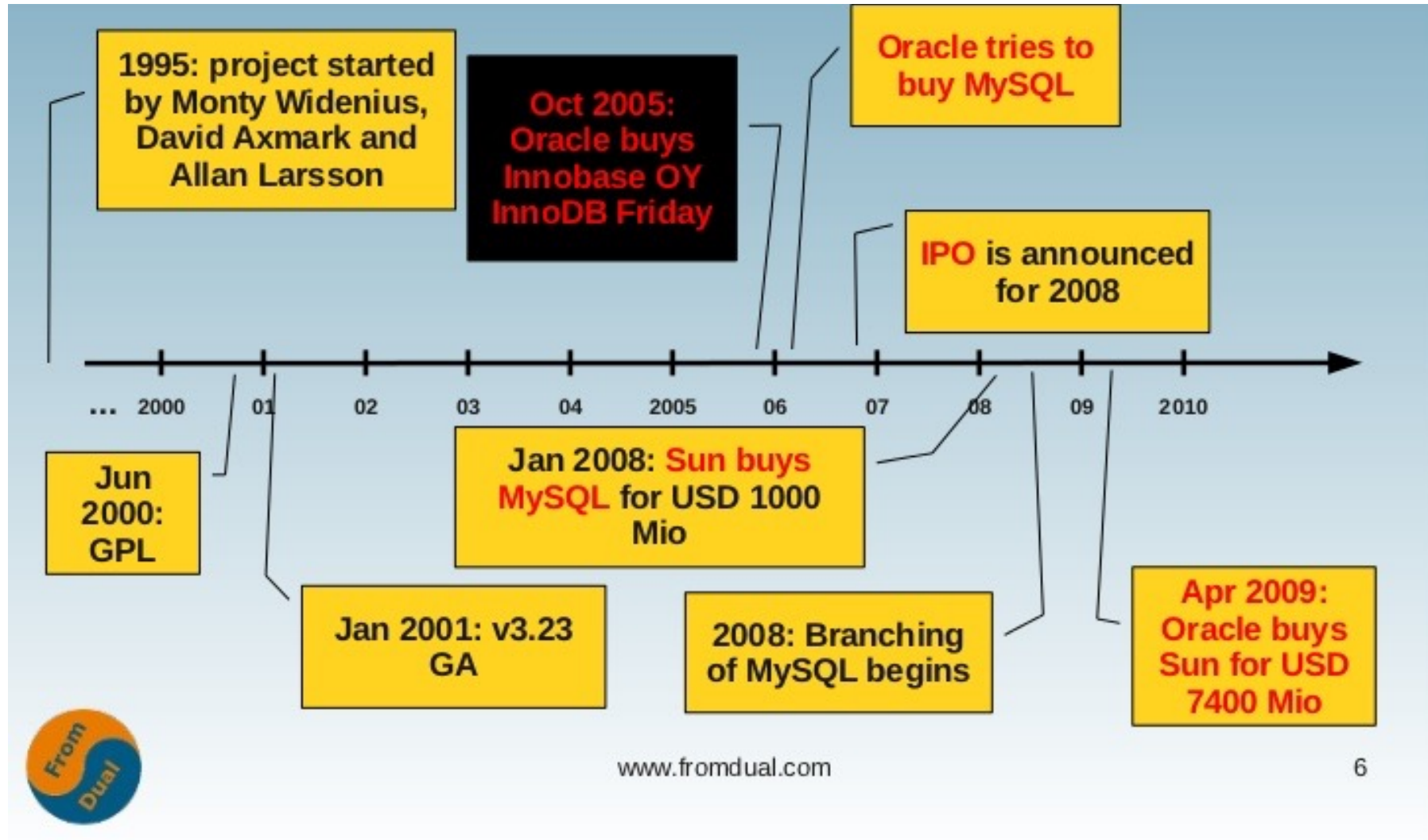


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# Introduction to MySQL™

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# History



# MySQL Editions

- MySQL Editions
  - MySQL Community Edition (free)
  - MySQL Commercial Editions (Classic, Standard, Enterprise, Cluster)
- Price (2016)

MySQL Perpetual License	License Price	Software Update License & Support	Metric
MySQL Classic Edition (1-4 socket server)	\$1,800	\$396.00	Server
MySQL Classic Edition (5+ socket server)	\$3,600	\$792.00	Server
MySQL Standard Edition (1-4 socket server)	\$6,000	\$1,320.00	Server
MySQL Standard Edition (5+ socket server)	\$12,000	\$2,640.00	Server
MySQL Enterprise Edition (1-4 socket server)	\$15,000	\$3,300.00	Server
MySQL Enterprise Edition (5+ socket server)	\$30,000	\$6,600.00	Server
MySQL Cluster Carrier Grade Edition (1-4 socket server)	\$30,000	\$6,600.00	Server
MySQL Cluster Carrier Grade Edition (5+ socket server)	\$60,000	\$13,200.00	Server

*Socket: is defined as a slot that houses a chip (or a multi-chip module), which contains a collection of one or more cores. Regardless of the number of cores, each chip (or multi-chip module) counts as a single socket.*

# Ubuntu – MySQL Installation

- Step 1: Update repository index

```
sudo apt-get update
```

- Step 2: Install MySQL Server with apt

```
sudo apt-get install mysql-server
```

- Step 3: Verify installation

```
mysql --version
```

- Step 4. Login mysql

```
sudo mysql
```

# Ubuntu – MySQL Installation

- Step 5: Check authentication method for MySQL users

```
SELECT user,authentication_string,plugin,host  
FROM mysql.user;
```

```
+-----+-----+-----+  
| user          | authentication_string          | plugin          |  
+-----+-----+-----+  
| root          |                               | auth_socket     |  
| mysql.session | *THISISNOTAVALIDPASSWORDTHATCANBEUSEDHERE | mysql_native_password |  
| mysql.sys     | *THISISNOTAVALIDPASSWORDTHATCANBEUSEDHERE | mysql_native_password |  
| debian-sys-maint | *CC744277A401A7D25BE1CA89AFF17BF607F876FF | mysql_native_password |  
+-----+-----+-----+  
4 rows in set (0.00 sec)
```

# Ubuntu – MySQL Installation

- Step 6: Change the authentication method for root

- If the authentication method is *mysql\_native\_password*

```
ALTER USER 'root'@'localhost' IDENTIFIED WITH  
mysql_native_password BY 'password' ;
```

- If the authentication method is *caching\_sha2\_password*

```
ALTER USER 'root'@'localhost' IDENTIFIED WITH  
caching_sha2_password BY 'password' ;
```

pls set *password* as '123456'

If there is **error** in changing password, you need to *turn password validation off*. Please see next slides.



# Turn off MySQL Password Validation

[If Step 6 is unsuccessful]

- Authentication method is ***mysql\_native\_password***

```
uninstall plugin validate_password;
```

- Authentication method is ***caching\_sha2\_password***

```
UNINSTALL COMPONENT 'file://component_validate_password';
```

# Ubuntu – MySQL Installation

[If Step 6 is successful]

- Step 7: Reload new change

```
FLUSH PRIVILEGES;
```

- Step 8: Show again

```
SELECT user,authentication_string,plugin,host  
FROM mysql.user;
```

- Step 9: Exit

```
exit;
```

- Step 10. Login mysql again

```
mysql -u root -p
```



# Uninstall MySQL in Ubuntu

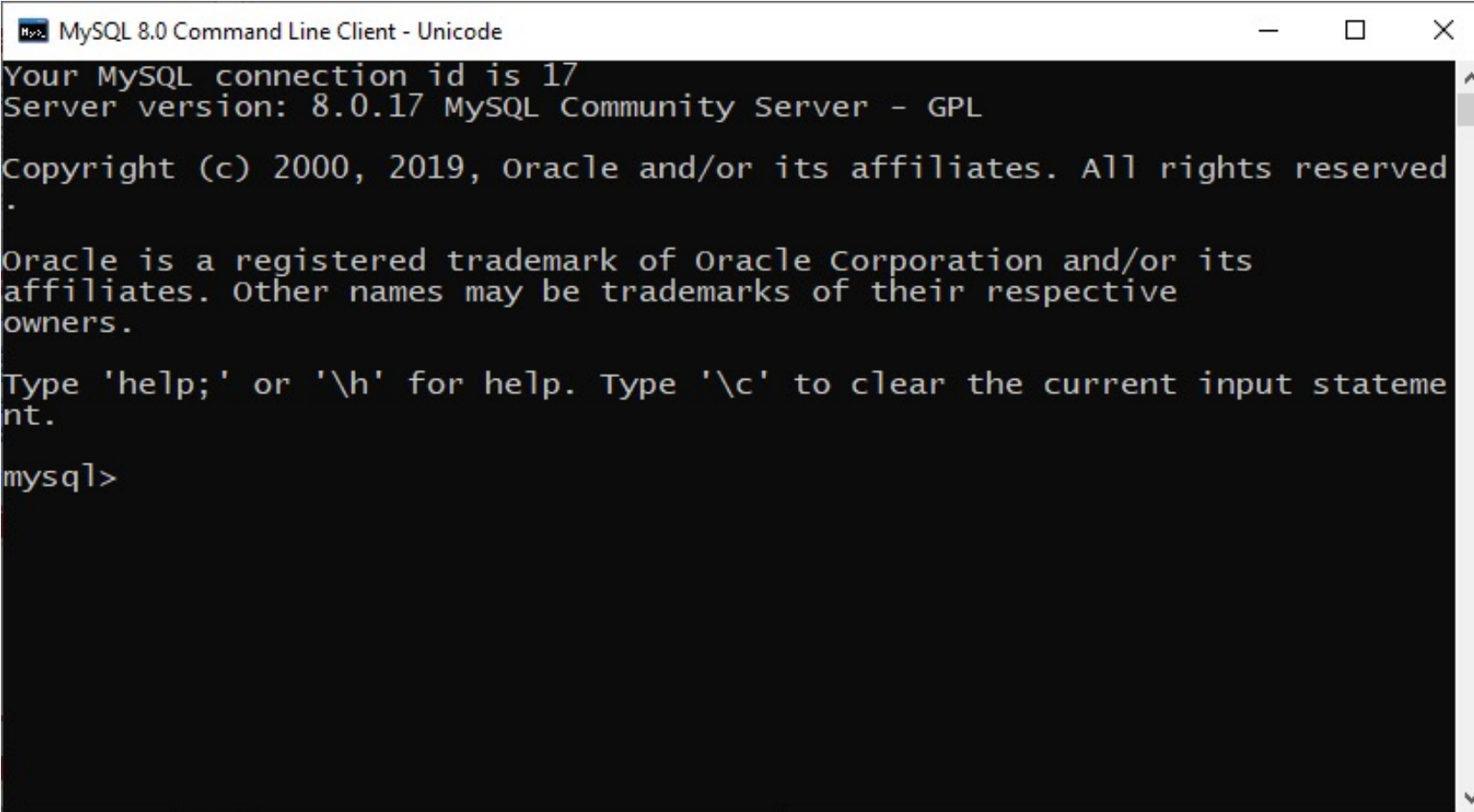
```
sudo apt-get purge mysql-server mysql-client mysql-common  
mysql-server-core-* mysql-client-core-*
```

```
sudo rm -rf /etc/mysql /var/lib/mysql
```

```
sudo apt-get autoremove
```

```
sudo apt-get autoclean
```

# MySQL Shell



```
MySQL 8.0 Command Line Client - Unicode
Your MySQL connection id is 17
Server version: 8.0.17 MySQL Community Server - GPL

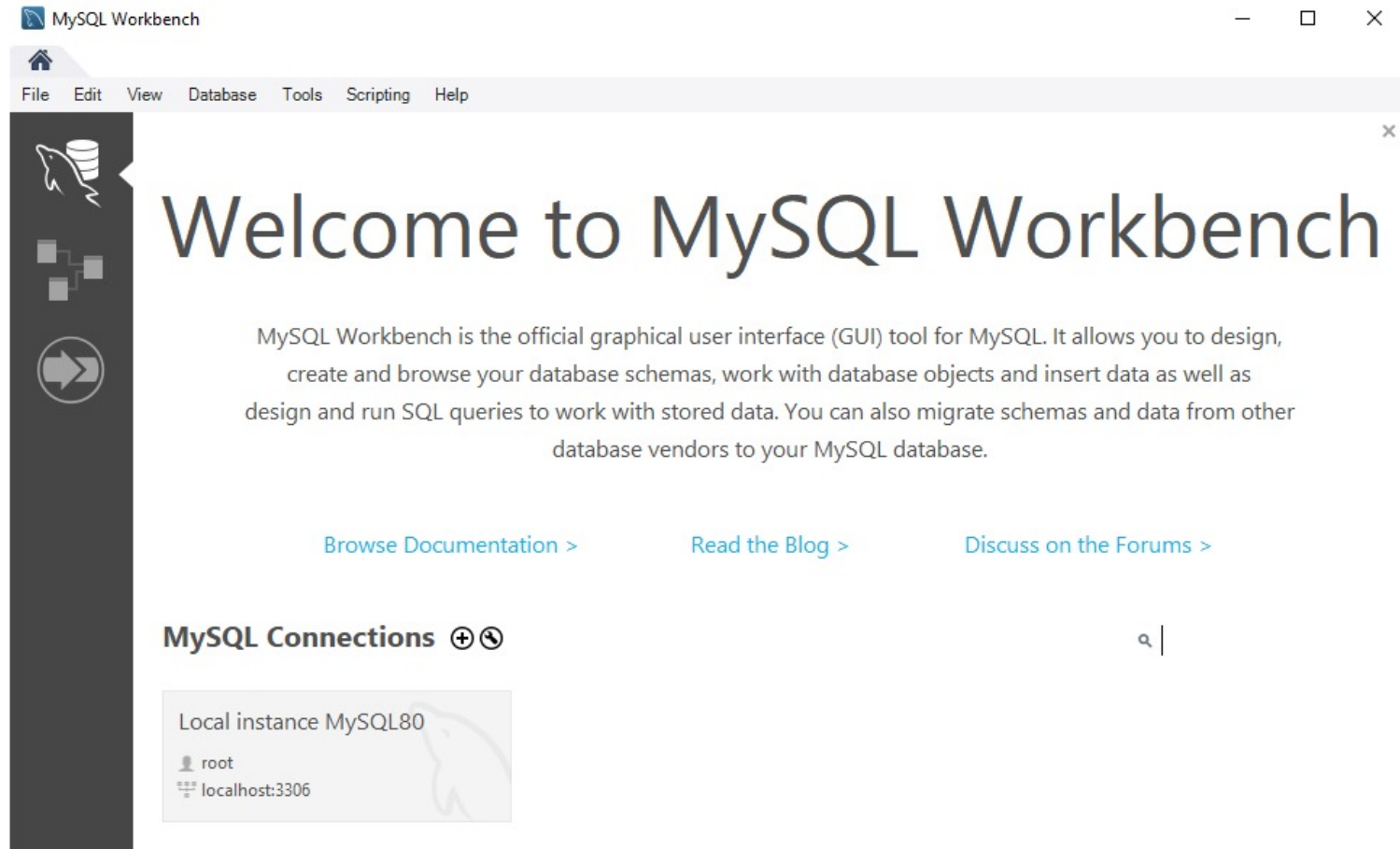
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affiliates. Other names may be trademarks of their respective
owners.

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

mysql>
```

# MySQL Workbench



# Basic Queries

```
•mysql>SELECT VERSION() , CURRENT_DATE ;
```

```
+-----+-----+
| VERSION() | CURRENT_DATE |
+-----+-----+
| 8.0.17    | 2019-09-16   |
+-----+-----+
1 row in set (0.00 sec)
```

- Note that most MySQL commands end with a semicolon (;)
- MySQL returns the total number of rows found, and the total time to execute the query.

# Basic Queries

- Keywords may be entered in any lettercase.
- The following queries are equivalent:

```
mysql> SELECT VERSION() , CURRENT_DATE;  
mysql> select version() , current_date;  
mysql> SeLeCt vErSiOn() , current_DATE;
```

# Basic Queries

- Here's another query. It demonstrates that you can use mysql as a simple calculator:

```
mysql> SELECT SIN(PI()/4) , (4+1)*5;
```

```
+-----+-----+
| SIN(PI()/4) | (4+1)*5 |
+-----+-----+
|      0.707107 |      25 |
+-----+-----+
```

# Basic Queries

- You can also enter multiple statements on a single line. Just end each one with a semicolon:

```
mysql> SELECT VERSION() ; SELECT NOW() ;
```

```
+-----+-----+
| VERSION() | CURRENT_DATE |
+-----+-----+
| 8.0.17    | 2019-09-16   |
+-----+-----+

+-----+
| NOW()          |
+-----+
| 2019-09-16 00:15:33 |
+-----+
```



# Multi-Line Commands

- Mysql determines where your statement ends by looking for the terminating semicolon, not by looking for the end of the input line.
- Here's a simple multiple-line statement:

```
mysql> SELECT
-> USER()
-> ,
-> CURRENT_DATE;

+-----+-----+
| USER()          | CURRENT_DATE |
+-----+-----+
| root@localhost  | 2019-09-16   |
+-----+-----+
```

# Canceling a Command

- If you decide you don't want to execute a command that you are in the process of entering, cancel it by typing \c

```
mysql> SELECT  
      -> USER()  
      -> \c  
mysql>
```

# Using a Database

- To get started on your own database, first check which databases currently exist.
- Use the SHOW statement to find out which databases currently exist on the server:

```
mysql> show databases;
```

```
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql              |  
| performance_schema |  
| sakila              |  
| sys                 |  
| world               |  
+-----+  
6 rows in set (0.00 sec)
```

# References

- Getting started:
  - <http://www.mysqltutorial.org/basic-mysql-tutorial.aspx>
  - <http://www.sqlteaching.com/>

