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21071 DBL Information Systems

Tutorial **Using Databases** Basics

TU / **e**

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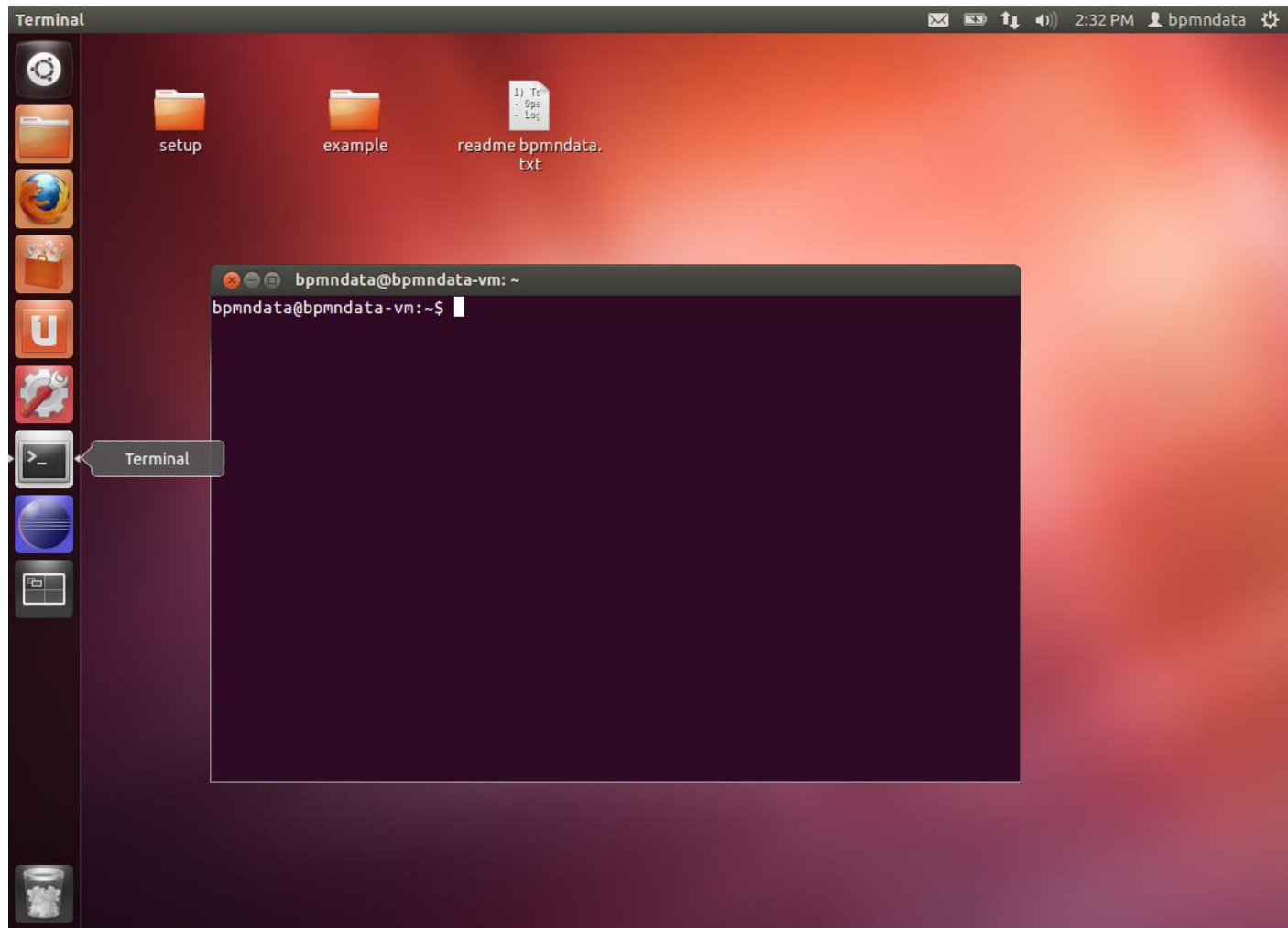
Where innovation starts

Overview

1. Logging into MySQL
2. The database of the assignment
3. Executing queries on the console
4. Technical Information
5. Further Tools

Logging into MySQL (1)

- Open a terminal window



Logging into MySQL (2)

■ enter: `mysql -u root acme`

name of the mysql
client program

login as user 'root'

use database acme

command line prompt
to execute SQL queries

enter `exit;` to leave

```
bpmndata@bpmndata-vm: ~  
bpmndata@bpmndata-vm:~$ mysql -u root acme  
Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A  
  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 43  
Server version: 5.5.29-0ubuntu0.12.04.2 (Ubuntu)  
  
Copyright (c) 2000, 2012, Oracle and/or its affiliates. All rights reserved.  
  
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owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
mysql> █
```

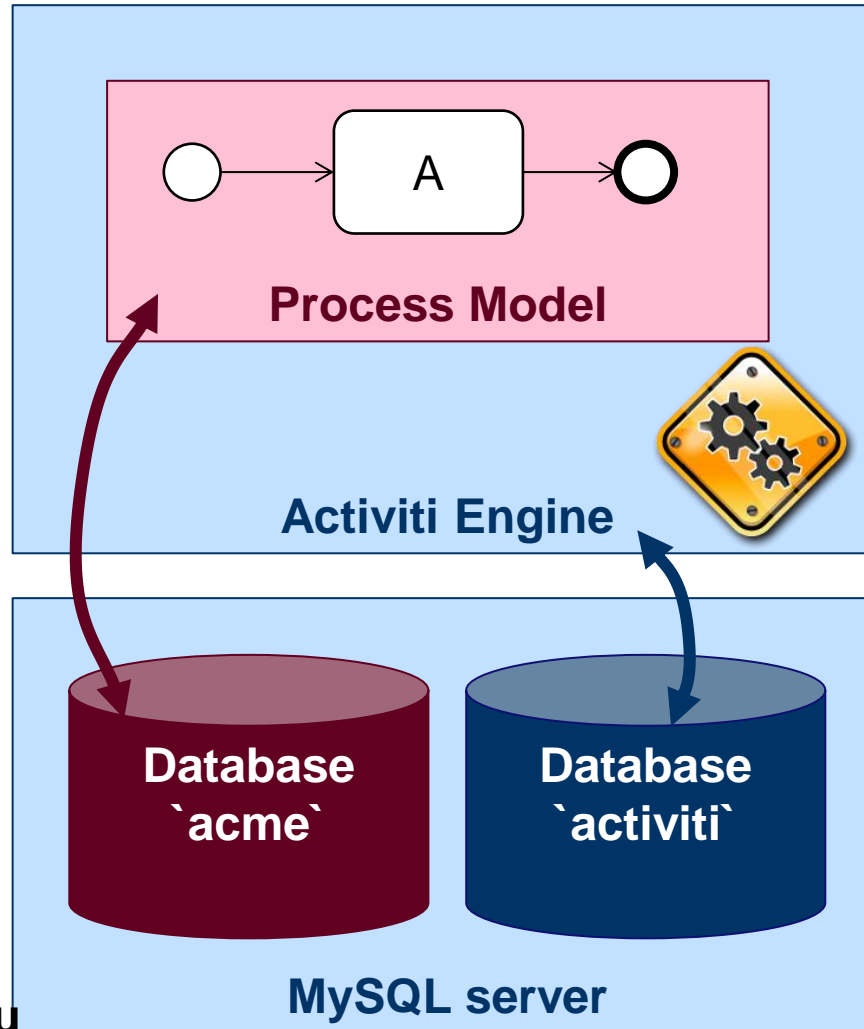
The Database on the Assignment (1)

- you work on the database `acme`
- to see which tables the database has type: `show tables;`
- you will see 2 tables `log` and `quotes`

```
mysql> show tables;
+-----+
| Tables_in_acme |
+-----+
| log             |
| quotes         |
+-----+
2 rows in set (0.00 sec)

mysql> █
```

The Database on the Assignment (2)



process-related information, e.g.

- customers,
- suppliers,
- items,
- orders,
- ...

maintained by you

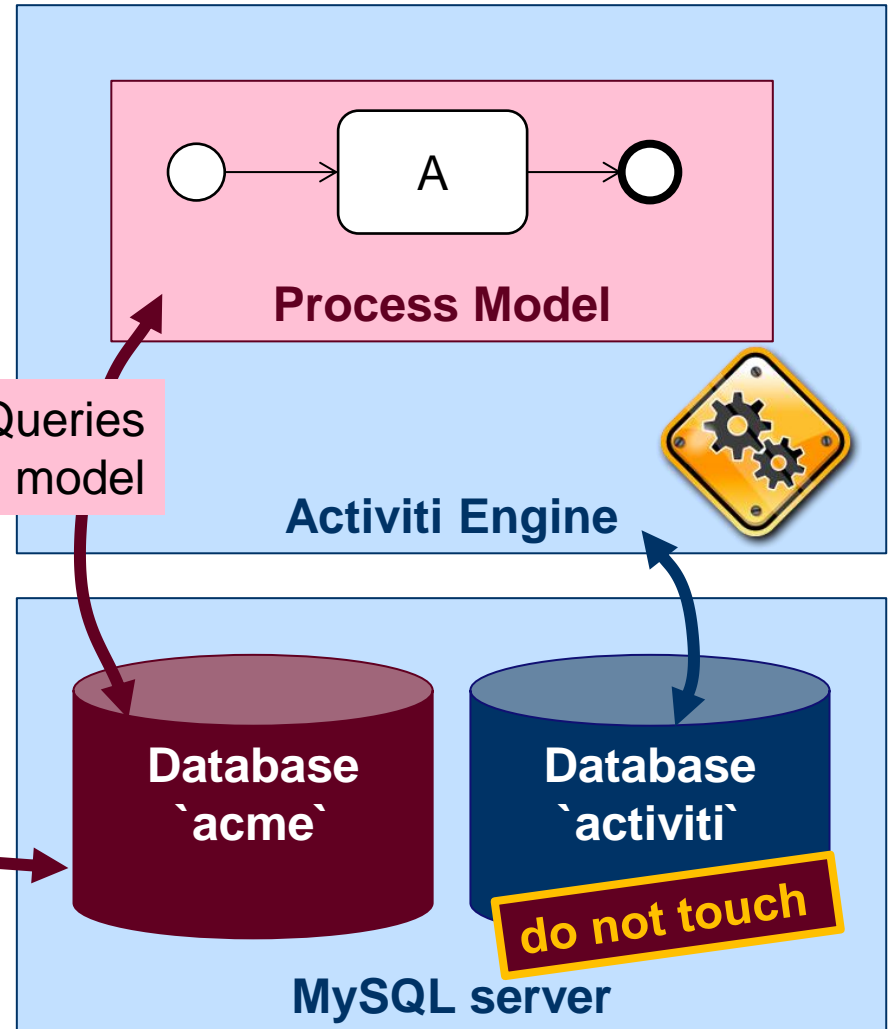
engine-related information, e.g.

- users,
- roles,
- active process instances,
- ...

maintained by Activiti

The Database on the Assignment (3)

- for the assignment you
 - create tables in the database `acme`
 - create process models in Activiti
 - annotate process models with SQL queries
 - Activiti will automatically execute these queries against the database `acme`
 - use the mysql console for debugging



```
bpmndata@bpmndata-vm:~$ mysql -u root acme
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 43
Server version: 5.5.29-0ubuntu0.12.04.2 (Ubuntu)

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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> |
```

creating
tables,
debugging

Executing queries on the console (1)

- `select * from `quotes`;`

the backtick ` (above the TAB key) is needed around every name of a table or a column

```
mysql> select * from `quotes`;
```

id	customer	item	itemprice	quantity	totalprice	state	created	handledBy
1	Mr. Smith	Screws 35x6mm	0.02	120	3.00	accepted	2013-04-21 14:50:04	70
2	Mr. Smith	Nails 60mm	0.01	50	0.50	accepted	2013-04-21 14:50:33	70

```
2 rows in set (0.00 sec)
```

- `insert into `quotes` (`id`,`customer`,`item`) values (3, "Mr. Miller", "Hammer");`
- `select * from `quotes`;`

```
mysql> insert into `quotes` (`id`,`customer`,`item`) values (3,"Mr. Miller", "Hammer");
Query OK, 1 row affected, 3 warnings (0.07 sec)
```

```
mysql> select * from `quotes`;
```

id	customer	item	itemprice	quantity	totalprice	state	created	handledBy
1	Mr. Smith	Screws 35x6mm	0.02	120	3.00	accepted	2013-04-21 14:50:04	70
2	Mr. Smith	Nails 60mm	0.01	50	0.50	accepted	2013-04-21 14:50:33	70
3	Mr. Miller	Hammer	0.00	0	0.00	NULL	2013-05-07 14:55:14	NULL

```
3 rows in set (0.00 sec)
```

column `created` gets a timestamp automatically

Executing queries on the console (2)

- SQL supports the various queries
 - select – retrieve information from tables
 - insert – insert new rows into a table
 - update – change rows in a table
 - delete – delete rows from a table

 - create – create a table
 - drop – delete a table
- use a book on SQL or Google to learn more about these queries
- it is useful to directly look up **MySQL** tutorials, as different database systems handle some technical aspects differently

Technical Information (1)

- the files

 - ~/Desktop/setup/db_create_db.sql

 - ~/Desktop/example/db_create_tables.sql

contain the SQL queries that were used to create the database `acme` and its tables

- in case you delete the database or the table `log` you can re-create it by executing the db_create_db.sql scripts:

type

```
source ~/Desktop/setup/db_create_db.sql;
```

when you are logged into mysql on the command line

Technical Information (2)

Technical Information

you won't need this unless you start connecting to the database other than through command line or Activiti

- URL to connect to the database
- user name 'acme_activiti'@'localhost'
- password 'acme_password'

Further Tools

- there exist various tools to explore a database, create tables, show contents in a GUI
 - for example <http://www.phpmyadmin.net/>
- you can install all kinds of software inside the Virtual Machine to assist your work
 - see <https://help.ubuntu.com/community/phpMyAdmin> for a tutorial
- when installing software:
user '**bpmndata**' has password '**bpmndata**'



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Good Luck!

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