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Motivation for MySQL as database

- relational database is more flexible than dbm

- dbm needs special programs for manipulations or retrieving

- SQL as database manipulation language (DML)

- MySQL is a free product

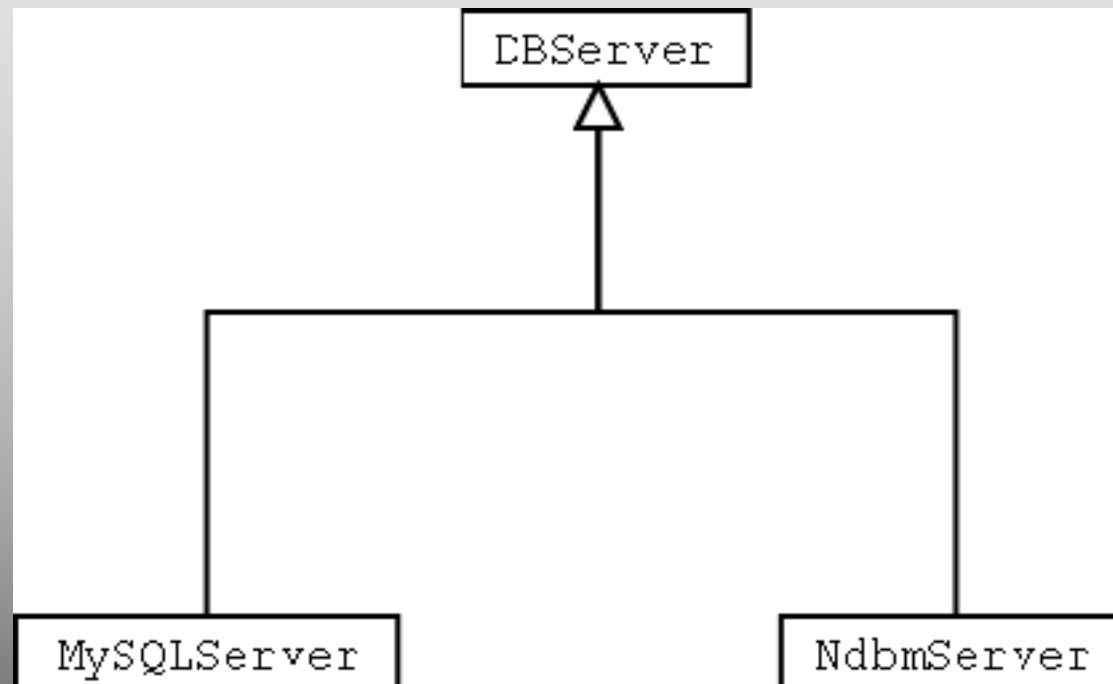- existing frontends to manipulate data (mysql, mysqladmin)

- make a copy of the original version of the dbm_server

- substitute all dbm specific code with MySQL specific code

- about a week of work

- a lot of disadvantages

  - main: 2 different code trees

➡ New design

- fully object oriented approach

- base class

  - abstract

  - methods are counterparts to the RPC of the oldserver

```
                    ┌──────────────┐
                    │  DBServer    │
                    └──────────────┘
                           △
                           │
              ┌────────────┴────────────┐
              │                         │
     ┌─────────────────┐       ┌─────────────────┐
     │  MySQLServer    │       │  NdbmServer     │
     └─────────────────┘       └─────────────────┘
```

- 3 Tables

  - NAMES
    - for 'normal' TACO servers

  - PS_NAMES
    - for 'ps' TACO servers

  - RESOURCE
    - for the resources of the TACO servers

- Informations are the same as in the dbm

- Columns for each part of the key and the value

```
CREATE TABLE NAMES(
 DEVICE_SERVER_CLASS CHAR(23)     NOT NULL,
 DEVICE_SERVER_NAME  CHAR(11)     NOT NULL,
 INDEX_NUMBER        INTEGER(10)  NOT NULL,
 DOMAIN              CHAR(8)      NOT NULL,
 FAMILY              CHAR(19)     NOT NULL,
 MEMBER              CHAR(19)     NOT NULL,
 HOSTNAME            CHAR(19)     DEFAULT "not_exp",
 PROGRAM_NUMBER      INTEGER(10)  DEFAULT 0,
 VERSION_NUMBER      SMALLINT(4)  DEFAULT 0,
 DEVICE_TYPE         CHAR(23)     DEFAULT "unknown",
 DEVICE_CLASS        CHAR(23)     DEFAULT "unknown",
 PROCESS_ID          SMALLINT(6)  DEFAULT 0,
 PROCESS_NAME        CHAR(39)     DEFAULT "unknown"
);


CREATE TABLE RESOURCE(
 DOMAIN     CHAR(8)     NOT NULL,
 FAMILY     CHAR(19)    NOT NULL,
 MEMBER     CHAR(19)    NOT NULL,
 NAME       CHAR(31)    NOT NULL,
 INDEX_RES  INTEGER(8)  NOT NULL,
 RESVAL     TEXT        NOT NULL
);
```

- First running version

  - No compiler and linker errors
  - Starts in the TACO environment

- Some test are made

  - db_info
  - db_delres
  - db_update
  - …

- Code Review

- Writing tests

- Testing, testing, testing, ...