

A MySQL database and Perl/PHP web server HOWTO

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MySQL Database

- relational database management system
- Open Source Software
- SQL (Structured Query Language)
- Why use MySQL?
- <http://www.mysql.com>
- <http://www.mysql.com/doc>

SQL Basics

- Create the database

```
CREATE DATABASE ch_openW01;
```

- Create the table including first field

```
CREATE TABLE addresses (name  
    varchar(32) not NULL default " " );
```

- List the tables

```
SHOW TABLES;
```

- List the fields in a table

```
DESC addresses;
```

SQL Basics cont.

- Add additional fields to existing table

```
ALTER TABLE addresses add PLZ char(4)  
not NULL default "0000";
```

- Put data into a table

```
INSERT INTO addresses VALUES  
("Mueller", 8000, "Zürich");
```

- Modify existing data

```
UPDATE addresses SET name = "Müller"  
WHERE name = "Mueller";
```

SQL Basics cont.

- Multiple tables

```
SELECT name, city
      FROM addresses, PLZlist
      WHERE addresses.PLZ = PLZlist.PLZ
      ORDER BY name, city
```

Perl

- `mod_perl`
- CGI interface
`use CGI;`
- DB interface for MySQL
`use DBI; use Mysql;`
- `*.pl`
- `#! /usr/bin/perl -w`
- `perl -wc foo.pl`

Perl Coding

- Connect with database server and select database

```
$dbh = DBI->connect( );
```

```
$dbh->selectdb( "ch_open" );
```

- Create SQL statement

```
my $qu = "SELECT name FROM  
addresses";
```

Perl Coding cont.

- Send SQL query to database server

```
$sth = $dbh->query($qu) ;
```

- Fetch the results

```
while ( %arr = $sth->fetchhash() ) {  
    ...  
}
```

Perl Coding cont.

- Finish the statement
`$sth->finish;`
- Disconnect from database
`$dbh->disconnect();`
- Error handling
- Web design

PHP

- Normal HTML embedded with php
- *.html or *.phtml
- <?php and ?>
- PHP 4.x

PHP Coding

- Connect with database server and select database

```
mysql_connect ( ) ;
```

```
mysql_select_db ( "ch_open" ) ;
```

- Create SQL statement

```
my $qu = "SELECT name FROM  
addresses" ;
```

PHP Coding

- Send SQL query to database server

```
$result = mysql_query($qu);
```

- Fetch the results

```
while ( $row =  
    mysql_fetch_array($result) ) {  
    ...  
}
```

PHP Coding

- Finish the statement

```
mysql_free_result($result);
```

- Error handling
- Web design

Perl or PHP or ...?

- Intended execution environment
- Performance
 - mod_perl, not perl
 - PHP 4.x with Zend
- Ease of development
- Portability