

PHP 101

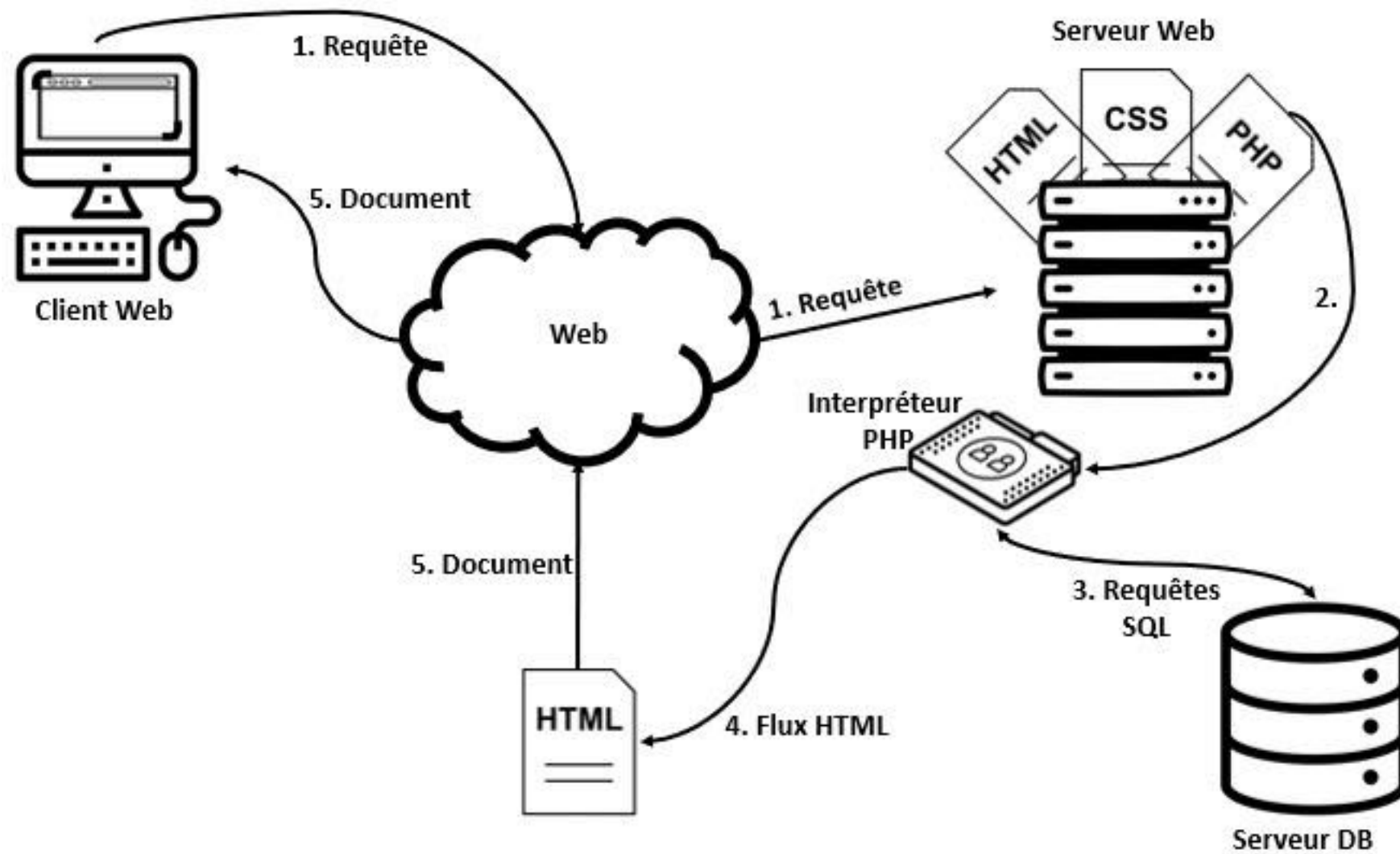
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Contexte

- Langage script interprété côté serveur, permettant de faire des pages dynamiques via un serveur HTTP
- Créé en 1994 par Rasmus Lerdorf pour mesurer le trafic sur son site web (Personal Home Page), distribué en 1996
- Repris en 1997 par Andi Gutmans et Zeev Suravski =>
 - Zend Engine I, aka PHP3
- 2004: PHP5
- 2017: PHP7 (DIRO: PHP5.6)



Fonctionnement



Usage typique: générer une page HTML

Syntaxe de base

Très proche de C

- Deux modes:
 - PHP: code inclus dans `<?php ... ?>`
 - Recopie (le reste)

```
<html>
```

```
...
```

```
<body>
```

```
<?php
```

```
    echo "Ceci est un test\n"; // Ceci est un commentaire sur une seule ligne, style c++  
    /* Ceci est un commentaire sur  
       plusieurs lignes */
```

```
    echo "Ceci est un autre test\n";
```

```
    echo "Et un test final\n"; # Ceci est un commentaire style shell sur une seule ligne
```

```
?>
```

```
</body>
```

```
</html>
```

Exemple 1

note: le code PHP ne devrait jamais être vu par un utilisateur

```
<?php
if (isset($_GET['source'])) { die(highlight_file(__FILE__, 1)); }
?>
```

seulement pour
le cours

```
<?php
    print ("Hello World !");
?>
```

n'importe où

```
<p>
Cette (magnifique) page est servie par PHP <?php echo phpversion() ?>.
La <a href="https://fr.wikipedia.org/wiki/PHP#PHP_7">version courante de PhP</a>.
</p>
```

note: pas besoin de droit d'exécution sur les fichiers .php

Exemple 2

```
<?php if (isset($_GET['source'])) die(highlight_file(__FILE__, 1)); ?>

<html>
<body>

<?php

$br = "<br \>";
echo "DOCUMENT_ROOT " . $_SERVER["DOCUMENT_ROOT"] . $br;           // L'espace o sont stockes les pages webs
echo "PHP_SELF " . $_SERVER["PHP_SELF"] . $br;                     // Le chemin du script par rapport DOCUMENT_ROOT

echo "HTTP_HOST " . $_SERVER["HTTP_HOST"] . $br;                   // hostname
echo "SERVER_PROTOCOL " . $_SERVER["SERVER_PROTOCOL"] . $br;      // version de HTTP
echo "REMOTE_ADDR " . $_SERVER["REMOTE_ADDR"] . $br;              // L'IP du visiteur
echo "HTTP_USER_AGENT " . $_SERVER["HTTP_USER_AGENT"] . $br;     // L'identifiant du navigateur
echo "HTTP_REFERER " . $_SERVER["HTTP_REFERER"] . $br;
$br; // L'url du site d'o vient le visiteur de la page (pas toujours renseigné ou exact)
echo "HTTP_ACCEPT_LANGUAGE " . $_SERVER["HTTP_ACCEPT_LANGUAGE"] . $br; // Les langues prefrees du visiteur

?>

<hr />

<?php
echo 'version PHP ' . phpversion() . $br;
echo "USER " . $_ENV["USER"] . $br;
echo implode(" ", $_ENV) . $br;
?>

</body>
</html>
```

Exemple 3

Petit script, gros effet

```
<?php if (isset($_GET['source'])) die(highlight_file(__FILE__, 1)); ?>
```

```
<html>
```

```
<body>
```

```
<?php
```

```
//phpinfo(INFO_GENERAL);
```

```
phpinfo();
```

```
?>
```

```
</body>
```

```
</html>
```


Variables

```
<?php
//une variable
$ma_variable = 5;
?>
```

- Commence toujours par \$
- Typage dynamique

```
<?php
$a_bool = TRUE; // un booléen
$a_str = "foo"; // une chaîne de caractères
$a_str2 = 'foo'; // une chaîne de caractères
$an_int = 12; // un entier

echo gettype($a_bool) ."\n"; // affiche : boolean
echo gettype($a_str) ."\n"; // affiche : string

var_dump($an_int);
var_dump($a_str2);

$a = 'bonjour';
$$a = 'monde'; // $bonjour vaut monde
echo "$a ${$a} $$a {$$a} "; // bonjour monde $bonjour monde

define("FOO", "Hello"); // constantes en majuscule
```

Types de base

Boolean

Number (int, double)

String

Array

NULL

?>

Opérateurs arithmétiques

```
<?php
```

```
$a=7;  
$b=2;
```

```
var_dump(-$a);  
var_dump($a+$b);  
var_dump($a-$b);  
var_dump($a*$b);  
var_dump($a/$b);  
var_dump(12/6);  
var_dump($a%$b);  
var_dump($a**$b); // a puissance b  
var_dump(intdiv($a,$b)); // division entière
```

```
?>
```



Standard Output

```
int(-7)  
int(9)  
int(5)  
int(14)  
float(3.5)  
int(2)  
int(1)  
int(49)  
int(3)
```

String

```
<?php
$foo = 1 + "10.5";           // $foo is float (11.5)
$foo = 1 + "-1.3e3";        // $foo is float (-1299)
$foo = 1 + "bob-1.3e3";     // $foo is integer (1)
$foo = 1 + "bob3";         // $foo is integer (1)
$foo = 1 + "10 Small Pigs"; // $foo is integer (11)
$foo = 4 + "10.2 Little Piggies"; // $foo is float (14.2)
$foo = "10.0 pigs " + 1;    // $foo is float (11)
$foo = "10.0 pigs " + 1.0;  // $foo is float (11)
?>
```

- concaténation: .
- strlen(\$s), strcmp, etc...

Eurk

Opérateurs booléens

```
<?php
```

```
$a=true;  
$b=false;
```

```
var_dump($a && $b);  
var_dump($a or $b);  
var_dump($a xor $a);
```

```
bool(false)  
bool(true)  
bool(false)
```

//Les réponses des deux lignes ci-après
sont différentes à cause de la priorité des
opérateurs.

```
var_dump($a || $b and $b);  
var_dump($a || $b && $b);
```

```
bool(false)  
bool(true)
```

```
?>
```

Opérateurs de comparaison

```
<?php
```

```
    $a=1;
```

```
    $b='1';
```

```
    var_dump($a==$b);
```

```
bool(true)
```

```
    var_dump($a=== $b);
```

```
bool(false)
```

```
    var_dump($a <> $b);
```

```
bool(false)
```

```
    var_dump($a !== $b);
```

```
bool(true)
```

```
?>
```

Fonctions sur les variables

```
<?php
```

```
var_dump(isset($a));
```

bool(false)

définie et non NULL

```
$a="";
```

```
var_dump(isset($a));
```

bool(true)

```
var_dump(empty($a));
```

bool(true)

```
unset($a);
```

```
var_dump(isset($a));
```

bool(false)

sont vides:

```
?>
```

- "" (une chaîne vide)
- 0 (0 en tant qu'entier)
- 0.0 (0 en tant que nombre à virgule flottante)
- "0" (0 en tant que chaîne de caractères)
- NULL
- FALSE
- array() (un tableau vide)

Tableaux

```
<?php
```

```
//Avec un index numérique
```

```
$table = array(1,2,3,4);
```

```
var_dump($table);
```

```
// Avec des clés associatives
```

```
$array = array(
```

```
    "foo" => "bar",
```

```
    "bar" => "foo",
```

```
);
```

```
var_dump($array['foo']); //Affiche l'entrée associée à la clé 'foo'
```

```
// depuis PHP 5.4
```

```
$tableau = [
```

```
    "foo" => "bar",
```

```
    "bar" => "foo",
```

```
];
```

```
var_dump($tableau['bar']); //Affiche l'entrée associée à la clé 'bar'
```

```
?>
```

```
array(4) {
```

```
    [0]=>
```

```
    int(1)
```

```
    [1]=>
```

```
    int(2)
```

```
    [2]=>
```

```
    int(3)
```

```
    [3]=>
```

```
    int(4)
```

```
}
```

```
string(3) "bar"
```

```
string(3) "foo"
```

Tableau = table associative

```
<?php
```

```
$stab["chaine"] = "Bonjour";  
$stab["booleen"] = true;  
$stab["entier"] = 5;  
$stab["decimal"] = 5.6;  
  
var_dump($stab);  
echo count($stab); // sizeof as well
```

```
?>
```

```
<?php
```

```
$stab = array(  
    array(1,2,3),  
    "ma_table" => array("ce", "que", "je", "veux"),  
    "clé" => array(1, "deux", "trois", 7 => 7),  
    array("chaine", true),  
    "un simple scalaire"  
);
```

```
var_dump($stab);
```

```
?>
```

```
array(4) {  
    ["chaine"]=>  
    string(7) "Bonjour"  
    ["booleen"]=>  
    bool(true)  
    ["entier"]=>  
    int(5)  
    ["decimal"]=>  
    float(5.6)  
}
```

```
4
```

```
array(5) {  
    [0]=>  
    array(3) {  
        [0]=>  
        int(1)  
        [1]=>  
        int(2)  
        [2]=>  
        int(3)  
    }  
    ["ma_table"]=>  
    array(4) {  
        [0]=>  
        string(2) "ce"  
        [1]=>  
        string(3) "que"  
        [2]=>  
        string(2) "je"  
        [3]=>  
        string(4) "veux"  
    }  
    ["clé"]=>  
    array(4) {  
        [0]=>  
        int(1)  
        [1]=>  
        string(4) "deux"  
        [2]=>  
        string(5) "trois"  
        [7]=>  
        int(7)  
    }  
    [1]=>  
    array(2) {  
        [0]=>  
        string(6) "chaine"  
        [1]=>  
        bool(true)  
    }  
    [2]=>  
    string(18) "un simple scalaire"  
}
```


Opérateurs sur les tableaux

```
<?php
$a = array("a" => "pomme", "b" => "banane");
$b = array("b" => "banane", "a" => "pomme");

var_dump($a==$b); // mêmes paires clé/valeur
var_dump($a=== $b); // dans le même ordre

$b = array("a" => "poire", "b" => "fraise", "c" => "cerise");

$c = $a + $b; // union de $a et $b
echo "Union de \$a et \$b : \n";
var_dump($c);

$c = $b + $a; // union de $b et $a
echo "Union de \$b et \$a : \n";
var_dump($c);
?>
```

```
bool(true)
bool(false)
Union de $a et $b :
array(3) {
  ["a"]=>
  string(5) "pomme"
  ["b"]=>
  string(6) "banane"
  ["c"]=>
  string(6) "cerise"
}
Union de $b et $a :
array(3) {
  ["a"]=>
  string(5) "poire"
  ["b"]=>
  string(6) "fraise"
  ["c"]=>
  string(6) "cerise"
}
```

Inst. Conditionnelles

Boucles

Comme en C (if else, elseif, switch, while, for, do-while)

```
<?php
    $arr = array(1, 2, 3, 4);
    foreach ($arr as $valeur) {
        echo $valeur . "\n";
    }

    echo "\n";
    foreach ($arr as $cle => $valeur) {
        echo '$arr[' . $cle . "] = " . $valeur . "\n";
    }
?>
```

1
2
3
4

\$arr[0] = 1
\$arr[1] = 2
\$arr[2] = 3
\$arr[3] = 4

Fonctions

```
<?php
    $var1=5;
    $var2=9;

    echo "var1=$var1\n";
    echo "var2=$var2\n";

    // L'échange attendu ne se produira pas
    echange($var1,$var2);

    echo "var1=$var1\n";
    echo "var2=$var2\n";

    function echange($a,$b) {
        $tmp=$a;
        $a=$b;
        $b=$tmp;
    }
?>
```

```
<?php
    $var1=5;
    $var2=9;

    echo "var1=$var1\n";
    echo "var2=$var2\n";

    echange($var1,$var2);

    echo "var1=$var1\n";
    echo "var2=$var2\n";

    function echange(&$a,&$b) {
        $tmp=$a;
        $a=$b;
        $b=$tmp;
    }
?>
```

Par défaut: passage par valeur, mais on peut spécifier (&) le passage par adresse (comme en C)

Fonctions variables

<?php

```
$ma_var = "foo";  
$autre_var = « bar»;
```

```
$ma_var(); // appel de fonction  
$autre_var(); // appel de fonction
```

```
function foo() {  
    echo "Appel de la fonction foo\n";  
}
```

```
function bar() {  
    echo "Appel de la fonction bar\n";  
}
```

?>

Une erreur est vite arrivée

www-labs.iro.umontreal.ca/~felipe/IFT3225-Hiver2020/ressources/cash-broken.php

Cherchez l'erreur...

```
<table>
<tr><th>produit</th><th>quant.</th><th>prix</th> <th>total</th></tr>
<tbody>
<?php
$total = 0;
foreach ($_SESSION['panier'] as $k=>$v) {
    $unit = $_SESSION[$k];
    $prix = $unit * $v;
    $total += $prix;
    echo "<tr><td>$k</td><td>$v</td><td>$unit</td><td>$prix</td></tr>\n"
}
?>
<tr><td><td><td><td><?php echo "$total";?></td></tr>
</tbody>
</table>
```

Droits

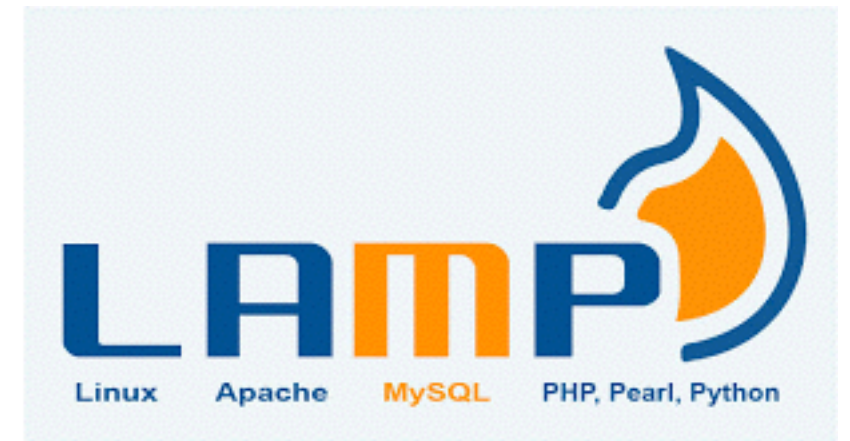
Contrairement à une ressource « normale » sur le Web qui se doit d'être lisible par tout le monde (*user, group, other*), un fichier php a juste besoin des droits en lecture (*user*):

```
chmod uog+r index.html  
chmod u+r index.php
```

```
-rw----- 1 felipe rali      144 Feb 23 22:09 redirect.php  
-rw----- 1 felipe rali      194 Feb 23 23:13 config-unigram-diro.php  
-rw----- 1 felipe rali      317 Feb 23 23:26 opendb.php  
-rw----- 1 felipe rali    2158 Feb 23 23:29 create-unigram-diro.php  
-rw----- 1 felipe rali    3113 Feb 24 00:03 create-unigram-diro2.php  
-rw----- 1 felipe rali      228 Feb 24 00:03 opendb-unigram-diro2.php  
-rw-r--r-- 1 felipe rali      181 Feb 24 09:47 cookie-capture.js  
-rw----- 1 felipe rali      779 Feb 24 10:02 cookies-send.php  
-rw----- 1 felipe rali    1521 Feb 24 10:43 accueil.php  
-rw----- 1 felipe rali    1645 Feb 24 13:10 session-shop.php  
-rw----- 1 felipe rali      789 Feb 24 13:30 cash.php  
-rw----- 1 felipe rali      789 Feb 24 20:59 cash-broken.php
```

PHP et MySQL

Je recommande l'installation sur votre machine de:



Welcome to MAMP

Your version is 5.7 and up to date.

BUY MAMP PRO

Be more productive: unlimited hosts, unlimited possibilities.



GET MAMP CLOUD

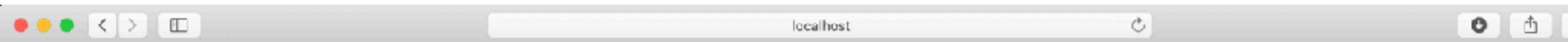
Save your hosts' data and database to Dropbox.



MAMP NEWS

Follow us on Twitter for the latest news and updates.





Php à jour ...



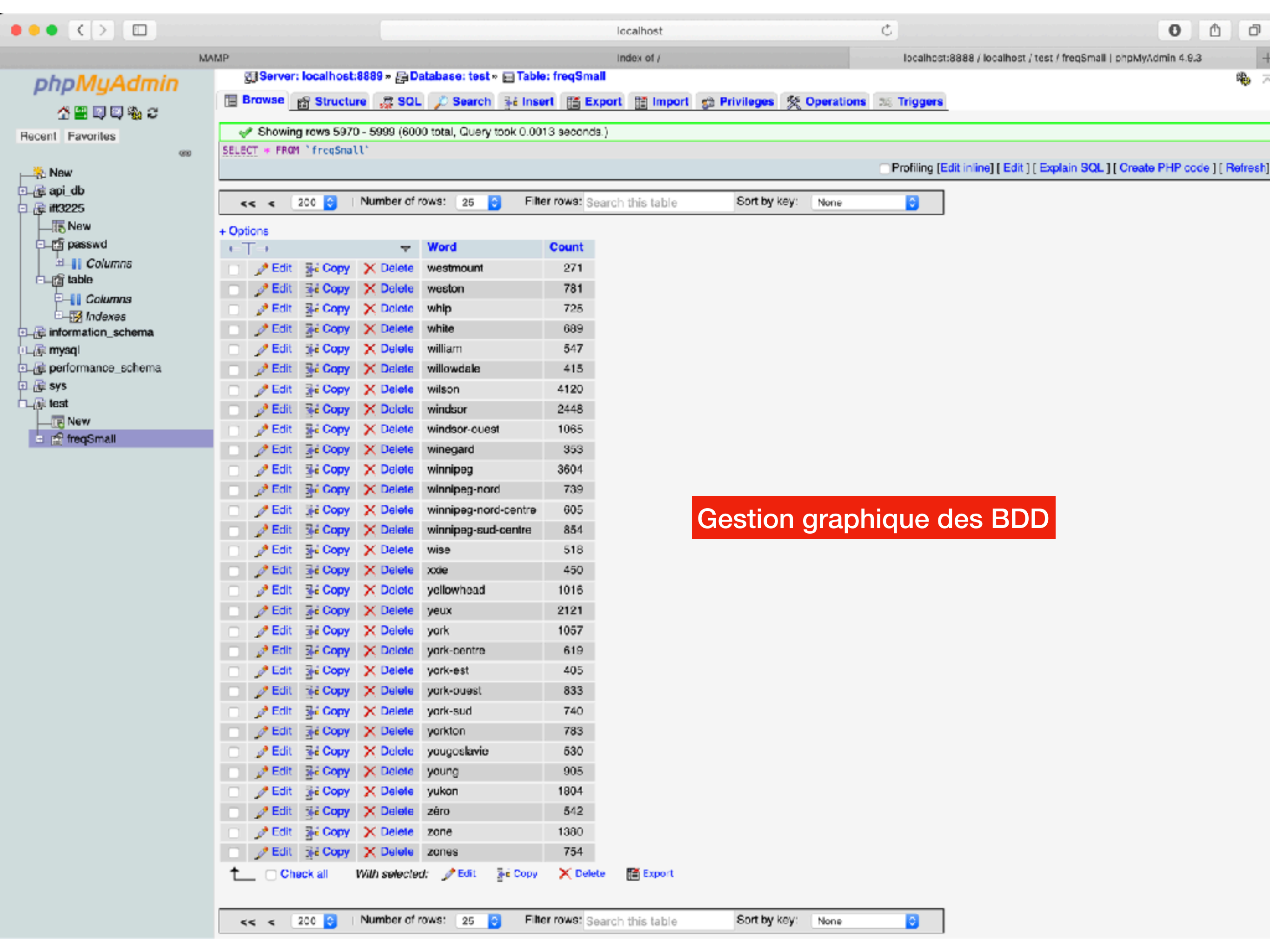
System	Darwin #Mac-de-fei pe.local 19.0.0 Darwin Kernel Version 19.0.0: Thu Oct 17 16:17:15 PDT 2019; root:xnu-6153.41.3~2/RELEASE_ARM_T8020
Build Date	Feb 17 2020 12:49:52
Configure Command	'./configure' '--with-apxs2=/Applications/MAMP/Library/bin/apxs' '--with-zlib' '--with-zlib-dir=/Applications/MAMP/Library' '--prefix=/Applications/MAMP/bin/php/php7.4.2' '--exec-prefix=/Applications/MAMP/bin/php/php7.4.2' '--sysconfdir=/Applications/MAMP/bin/php/php7.4.2/conf' '--with-config-file-path=/Applications/MAMP/bin/php/php7.4.2/conf' '--enable-fp' '--with-bz2=/Applications/MAMP/Library' '--with-mysql=mysqlnd' '--enable-mbstring=all' '--with-curl=/Applications/MAMP/Library' '--enable-sockets' '--enable-bcmath' '--enable-soap' '--enable-calendar' '--with-pgsql=shared,/Applications/MAMP/Library/pg' '--enable-exif' '--with-gettext=shared,/Applications/MAMP/Library' '--with-xsl=/Applications/MAMP/Library' '--with-pdo-mysql=mysqlnd' '--with-pdo-pgsql=shared,/Applications/MAMP/Library/pg' '--with-oci8=shared,/Applications/MAMP/Library' '--with-iconv=/Applications/MAMP/Library' '--enable-openssl' '--enable-intl' '--with-tidy=shared,/Applications/MAMP/Library' '--with-readline' '--with-mhash' '--with-iconv-dir=/Applications/MAMP/Library' '--with-codium=/Applications/MAMP/Library' '--with-password-argon2=/Applications/MAMP/Library' '--disable-openssl' '--with-zip' '--with-karberos' '--with-pdo-sqlite' '--with-sqlite3' '--with-imap=shared,/Applications/MAMP/Library/lib/imap-2007/lib' '--with-imap-ssl=/Applications/MAMP/Library' '--disable-phpdbg' '--enable-gd' '--with-jpeg' '--with-freetype' '--with-pear' '--with-xmlrpc' 'KERBEROS_FLAGS=/usr/include' 'KERBEROS_LIBS=-lkrb5' 'SQLITE_FLAGS=' 'SQLITE_LIBS=-lsqlite3' 'JPEG_FLAGS=' 'JPEG_LIBS=-ljpeg' 'SASL_FLAGS=/usr/include/sasl' 'SASL_LIBS=-lsasl2'
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled

/Applications/MAMP/htdocs



Index of /

- [e2013/](#)
- [mamp-htdocs.zip](#)
- [sources/](#)



Server: localhost:8888 » Database: test » Table: freqSmall

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Showing rows 5970 - 5999 (6000 total, Query took 0.0013 seconds.)

SELECT * FROM `freqSmall`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

200 | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options				Word	Count
<input type="checkbox"/>				westmount	271
<input type="checkbox"/>				weston	781
<input type="checkbox"/>				whip	725
<input type="checkbox"/>				white	689
<input type="checkbox"/>				william	547
<input type="checkbox"/>				willowdale	415
<input type="checkbox"/>				wilson	4120
<input type="checkbox"/>				windsor	2448
<input type="checkbox"/>				windsor-ouest	1065
<input type="checkbox"/>				winegard	353
<input type="checkbox"/>				winnipeg	3604
<input type="checkbox"/>				winnipeg-nord	739
<input type="checkbox"/>				winnipeg-nord-centre	605
<input type="checkbox"/>				winnipeg-sud-centre	854
<input type="checkbox"/>				wise	518
<input type="checkbox"/>				xode	450
<input type="checkbox"/>				yellowhead	1016
<input type="checkbox"/>				yeux	2121
<input type="checkbox"/>				york	1057
<input type="checkbox"/>				york-centre	619
<input type="checkbox"/>				york-est	405
<input type="checkbox"/>				york-ouest	833
<input type="checkbox"/>				york-sud	740
<input type="checkbox"/>				yorkton	783
<input type="checkbox"/>				yougoslavie	630
<input type="checkbox"/>				young	905
<input type="checkbox"/>				yukon	1804
<input type="checkbox"/>				zéro	542
<input type="checkbox"/>				zone	1380
<input type="checkbox"/>				zones	754

Check all With selected: Edit Copy Delete Export

200 | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Gestion graphique des BDD

MySQL au DIRO

- Deux comptes: *user* et *user_web*
 - Le premier requiert une connexion Kerberos (pas sûr que cela fonctionne en PHP)
 - Le second a moins de droits (lecture/écriture dans une base existante)
 - Gestion manuelle des bases via `mysql`

- Connexion depuis une machine du DIRO

```
mysql -h mysql
```

- Modifier (et voir) son (nouveau) mot de passe MySQL:

```
ssh arcade mysqlpasswd
```

```
ssh -n remise /usr/local/bin/mysqlpasswd-remise
```

- MySQL au DIRO

Installation d'une base au DIRO

1. `cat mysqlsmallfreq.sql`

```
--  
-- Database: felipe_web_Freq  
--  
  
CREATE DATABASE felipe_web_Freq;  
use felipe_web_Freq;  
  
--  
-- Table structure for table `freqSmall`  
--  
  
CREATE TABLE `freqSmall` (  
  `Word` varchar(30) NOT NULL,  
  `Count` int(11) DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;  
....
```

Les bases doivent être préfixées
du nom de l'utilisateur

2. `mysql -h mysql -t < mysqlsmallfreq.sql`

3. `mysql -h mysql -e 'use felipe_web_Freq; show tables;'`

4. `mysqldump -h mysql felipe_web_Freq`

5. `mysql -h mysql -e 'DROP DATABASE felipe_web_Freq'`

Session mysql

1. `mysql -h mysql`
2. `use felipe_web_Freq`
3. `show tables;`

```
MariaDB [felipe_web_Freq]> show tables;
+-----+
| Tables_in_felipe_web_Freq |
+-----+
| freqSmall                  |
+-----+
1 row in set (0.00 sec)
```

4. `SELECT * FROM freqSmall LIMIT 5;`

```
+-----+-----+
| Word      | Count |
+-----+-----+
| 1000      | 936   |
| 10000     | 647   |
| 100000    | 999   |
| 1200      | 284   |
| 1500      | 298   |
+-----+-----+
5 rows in set (0.00 sec)
```

Session mysql

5. SELECT * FROM freqSmall LIMIT 1000,10;

```
+-----+-----+
| Word          | Count |
+-----+-----+
| clients       | 1247  |
| climat        | 1300  |
| clos          | 492   |
| clôture       | 1194  |
| club          | 280   |
| coalition     | 600   |
| cochrane      | 375   |
| code          | 3671  |
| coeur         | 2678  |
| coin          | 406   |
+-----+-----+
10 rows in set (0.00 sec)
```

Session mysql

6. SELECT Word, Count FROM freqSmall ORDER BY Count DESC LIMIT 10;

```
+-----+-----+
| Word          | Count  |
+-----+-----+
| nous          | 321624 |
| pour          | 242809 |
| dans          | 219002 |
| gouvernement  | 174088 |
| président     | 135125 |
| ministre      | 129920 |
| plus          | 128122 |
| cette         | 124908 |
| sont          | 107900 |
| canada        | 106687 |
+-----+-----+
10 rows in set (0.00 sec)
```

Session mysql

7. SELECT Word, Count FROM freqSmall WHERE Word LIKE 'abs%' ORDER BY Count DESC LIMIT 10;

```
+-----+-----+
| Word          | Count |
+-----+-----+
| absolutement | 6760  |
| absence       | 2421  |
| absurde       | 544   |
| absolue       | 480   |
| absorber      | 308   |
| absent        | 281   |
+-----+-----+
6 rows in set (0.00 sec)
```

8. quit

Bye

Authentication par mot de passe ou par session

Repris (et légèrement adapté) de cet excellent [tutoriel](#)

password_hash()

A screenshot of a database management tool interface. On the left, a tree view shows a schema named 'mySchema' containing tables 'accounts', 'account_sessions', 'mysql', and 'performance_schema'. The 'accounts' table is selected. The main area shows a table with three columns: 'account_id', 'account_name', and 'account_passwd'. Two rows of data are visible. The first row has '3' for account_id and 'chilly78' for account_name. The second row has '4' for account_id and 'felipe_web' for account_name. The 'account_passwd' column contains long, complex strings representing password hashes. A red arrow points from the text 'password_hash()' above to the 'account_passwd' column header. Below the table, there are various action buttons like 'Éditer', 'Copier', and 'Supprimer'.

Les bases sont gérées en PHP via l'interface PDO.

1 - Création de la base

```
--  
-- Table structure for table `accounts`  
--  
CREATE TABLE `accounts` (  
  `account_id` int(10) UNSIGNED NOT NULL,  
  `account_name` varchar(255) NOT NULL,  
  `account_passwd` varchar(255) NOT NULL,  
  `account_reg_time` timestamp NOT NULL DEFAULT  
CURRENT_TIMESTAMP,  
  `account_enabled` tinyint(1) UNSIGNED NOT NULL DEFAULT  
'1'  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;  
  
--  
-- Indexes for table `accounts`  
--  
ALTER TABLE `accounts`  
  ADD PRIMARY KEY (`account_id`),  
  ADD UNIQUE KEY `account_name` (`account_name`);  
  
--  
-- AUTO_INCREMENT for table `accounts`  
--  
ALTER TABLE `accounts`  
  MODIFY `account_id` int(10) UNSIGNED NOT NULL  
AUTO_INCREMENT;
```

```
--  
-- Table structure for table `account_sessions`  
--  
CREATE TABLE `account_sessions` (  
  `session_id` varchar(255) NOT NULL,  
  `account_id` int(10) UNSIGNED NOT NULL,  
  `login_time` timestamp NOT NULL DEFAULT  
CURRENT_TIMESTAMP  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;  
  
--  
-- Indexes for table `account_sessions`  
--  
ALTER TABLE `account_sessions`  
  ADD PRIMARY KEY (`session_id`);
```

2- Connexion

db_inc.php

```
<?php
/* Host name of the MySQL server */
$host = 'localhost';

/* MySQL account username */
$user = 'myUser';

/* MySQL account password */
$passwd = 'myPasswd';

/* The schema you want to use */
$schema = 'mySchema';

/* The PDO object */
$pdo = NULL;

/* Connection string, or "data source name" */
$dsn = 'mysql:host=' . $host . ';dbname=' . $schema;

/* Connection inside a try/catch block */
try {
    /* PDO object creation */
    $pdo = new PDO($dsn, $user, $passwd);

    /* Enable exceptions on errors */
    $pdo->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
}
catch (PDOException $e)
{
    /* If there is an error an exception is thrown */
    echo 'Database connection failed.';
    die();
}
```

3- Gestion de la base

account-class.php

```
<?php
```

```
class Account
```

```
{
```

```
    /* The ID of the logged in account (or NULL if there is no logged in account) */
```

```
    private $id;
```

```
    /* The name of the logged in account (or NULL if there is no logged in account) */
```

```
    private $name;
```

```
    /* TRUE if the user is authenticated, FALSE otherwise */
```

```
    private $authenticated;
```

```
    /* Add a new account to the system and return its ID (the account_id column of the accounts table) */
```

```
    public function addAccount(string $name, string $passwd): int {...}
```

```
    /* Returns the account id having $name as name, or NULL if it's not found */
```

```
    public function getIdFromName(string $name): ?int { ... }
```

```
    /* Edit an account (selected by its ID). The name, the password and the status (enabled/disabled) can be changed */
```

```
    public function editAccount(int $id, string $name, string $passwd, bool $enabled) { ... }
```

```
    /* Delete an account (selected by its ID) */
```

```
    public function deleteAccount(int $id) { ... }
```

```
    /* Login with username and password */
```

```
    public function login(string $name, string $passwd): bool { ... }
```

```
    /* Login using Sessions */
```

```
    public function sessionLogin(): bool { ... }
```

```
    /* Saves the current Session ID with the account ID */
```

```
    private function registerLoginSession() { ... }
```

```
    ...
```

```
}
```

add

```
/* Add a new account to the system and return its ID (the account_id column of the accounts table) */
public function addAccount(string $name, string $passwd): int
{
    /* Global $pdo object */
    global $pdo;

    /* Trim the strings to remove extra spaces */
    $name = trim($name);
    $passwd = trim($passwd);

    /* Check if the user name is valid. If not, throw an exception */
    if (!$this->isNameValid($name))
    {
        throw new Exception('Invalid user name');
    }

    /* Check if the password is valid. If not, throw an exception */
    if (!$this->isPasswdValid($passwd))
    {
        throw new Exception('Invalid password');
    }

    /* Check if an account having the same name already exists. If it does, throw an exception */
    if (!is_null($this->getIdFromName($name)))
    {
        throw new Exception('User name not available');
    }
    // suite next slide
}
```

add

```
public function addAccount(string $name, string $passwd): int
{
    /* Global $pdo object */
    global $pdo;

    /* Insert query template */
    $query = 'INSERT INTO myschema.accounts (account_name, account_passwd) VALUES (:name, :passwd)';

    /* Password hash */
    $hash = password_hash($passwd, PASSWORD_DEFAULT);

    /* Values array for PDO */
    $values = array(':name' => $name, ':passwd' => $hash);

    /* Execute the query */
    try
    {
        $res = $pdo->prepare($query);
        $res->execute($values);
    }
    catch (PDOException $e)
    {
        /* If there is a PDO exception, throw a standard exception */
        throw new Exception('Database query error');
    }

    /* Return the new ID */
    return $pdo->lastInsertId();
}
```

requête préparée



add

```
/* Saves the current Session ID with the account ID */
private function registerLoginSession()
{
    /* Global $pdo object */
    global $pdo;

    /* Check that a Session has been started */
    if (session_status() == PHP_SESSION_ACTIVE)
    {
        /* Use a REPLACE statement to:
        - insert a new row with the session id, if it doesn't exist, or...
        - update the row having the session id, if it does exist.
        */
        $query = 'REPLACE INTO myschema.account_sessions (session_id, account_id, login_time) VALUES (:sid, :account
NOW());';
        $values = array(':sid' => session_id(), ':accountId' => $this->id);

        /* Execute the query */
        try
        {
            $res = $pdo->prepare($query);
            $res->execute($values);
        }
        catch (PDOException $e)
        {
            /* If there is a PDO exception, throw a standard exception */
            throw new Exception('Database query error');
        }
    }
}
```

read

```
/* Returns the account id having $name as name, or NULL if it's not found */
public function getIdFromName(string $name): ?int
{
    global $pdo;

    /* Since this method is public, we check $name again here */
    if (!$this->isNameValid($name)) { throw new Exception('Invalid user name'); }

    /* Initialize the return value. If no account is found, return NULL */
    $id = NULL;

    /* Search the ID on the database */
    $query = 'SELECT account_id FROM myschema.accounts WHERE (account_name = :name)';
    $values = array(':name' => $name);

    try {
        $res = $pdo->prepare($query);
        $res->execute($values);
    }
    catch (PDOException $e) { throw new Exception('Database query error'); }

    $row = $res->fetch(PDO::FETCH_ASSOC);

    if (is_array($row)) {
        $id = intval($row['account_id'], 10);
    }

    return $id;
}
```


login

```
/* Login with username and password */
public function login(string $name, string $passwd): bool
{
    global $pdo;
    // verifications (skipped)

    $query = 'SELECT * FROM myschema.accounts WHERE (account_name = :name) AND (account_enabled = 1)';
    $values = array(':name' => $name);

    try {
        $res = $pdo->prepare($query);
        $res->execute($values);
    }
    catch (PDOException $e) { throw new Exception('Database query error'); }

    $row = $res->fetch(PDO::FETCH_ASSOC);

    if (is_array($row)) {
        if (password_verify($passwd, $row['account_passwd'])) {
            $this->id = intval($row['account_id'], 10);
            $this->name = $name;
            $this->authenticated = TRUE;

            $this->registerLoginSession();

            return TRUE;
        }
    }

    /* If we are here, it means the authentication failed: return FALSE */
    return FALSE;
}
```

logout

```
/* Logout the current user */
public function logout()
{
    global $pdo;

    if (is_null($this->id))
        return;

    /* If there is an open Session, remove it from the account_sessions table */
    if (session_status() == PHP_SESSION_ACTIVE)
    {
        $query = 'DELETE FROM myschema.account_sessions WHERE (session_id = :sid)';
        $values = array(':sid' => session_id());

        try{
            $res = $pdo->prepare($query);
            $res->execute($values);
        }
        catch (PDOException $e) {
            throw new Exception('Database query error');
        }
    }
}
```

4- Utilisation

```
<?php

/* Start the PHP Session */
session_start();

/* Include the database connection file (remember to change the connection parameters) */
require './db_inc.php';

/* Include the Account class file */
require './account_class.php';

/* Create a new Account object */
$account = new Account();

try
{
    $newId = $account->addAccount('myUserName', 'myPassword');
}
catch (Exception $e)
{
    echo $e->getMessage();
    die();
}

echo 'The new account ID is ' . $newId;
```

5- Exemple

myclub-tools.php

- création du formulaire
- admin

myclub-frontal.php



myclub-verif.php

- permet de s'identifier par formulaire

myclub-admin.php



myclub-whom



myclub-delete

- permet de s'identifier en tant qu'admin
- demande de spécifier un nom à supprimer
- le détruit s'il existe

5- Exemple

myclub-frontal.php

```
<?php require("myclub-tools.php"); ?>

<DOCTYPE html>

<html>

<head>
  <title>Bienvenue dans MyClub</title>
</head>

<body>

  <div align="center">
    <h3>Bienvenue</h3>
    <p />

    <?php form("myclub-verif.php",true); ?>

  </div>
</body>
</html>
```

myclub-admin.php

```
<?php require './myclub-tools.php'; ?>

<!DOCTYPE html>

<html>
<head>
  <title>MyClub Admin</title>
</head>

<body>

  <body>
    <div align="center">
      <h3>Page administrateur de MyClub</h3>
      <?php form("myclub-whom.php"); ?>
    </div>
  </body>
</html>
```

5- Exemple

```
<?php
```

```
// administrateur de la base
```

```
$admin = 'chilly78';
```

```
// affiche la forme 29.1 de Deitel&Deitel
```

```
function form($script, $two=false) {
```

```
    echo "<form action=\"$script\" method=\"post\"><br/>";
```

```
    echo '<table width="300" border="0" cellspacing="2" cellpadding="0">';
```

```
    echo '<tr>';
```

```
    echo '    <td align="right"> Votre nom :';
```

```
    echo '    <td><input type="text" name="nom" required/></td>';
```

```
    echo '</tr>';
```

```
    echo '<tr>';
```

```
    echo '    <td align="right">Mot de passe :</td>';
```

```
    echo '    <td><input type="password" name="motDePasse" required/></
```

```
td>';
```

```
    echo '</tr>';
```

```
    echo '<tr><td><td><input type="submit" name="accesUser" value="In"/
```

```
>';
```

```
    if ($two) {
```

```
        echo '<input type="submit" name="newUser" value="New"/>';
```

```
        echo '<input type="submit" name="editUser" value="Edit"/>';
```

```
    }
```

```
    echo '</td>';
```

```
    echo '</tr>';
```

```
    echo '</table>';
```

```
    echo '</form>';
```

```
}
```

```
myclub-tools.php
```

```
function login($user, $pwd) {  
    global $account;
```

```
    $login = FALSE;
```

```
    try
```

```
    {
```

```
        $login = $account->login($user, $pwd);
```

```
    }
```

```
    catch (Exception $e)
```

```
    {
```

```
        return false;
```

```
        die();
```

```
    }
```

```
    return $login;
```

```
}
```

5-Exemple

club-verif.php

```
<?php
session_start();

require './db_inc.php';
require './account_class.php';
require './myclub-tools.php';
?>

<!DOCTYPE html>
<html> <head> <title>MyClub Acces</title> </head>
<body>

<?php

$br = "<br>";
$back = 'retour <a href="myclub-frontal.php">authentication</a>';

// recupere les variables du submit facon http://ca3.php.net/manual/fr/tutorial.oldcode.php
$expected = array('nom', 'motDePasse', 'newUser', 'accesUser', 'editUser');
foreach ($expected as $formvar)
    $$formvar = isset($_POST[$formvar])? $_POST[$formvar]:NULL;

...
```

5-Exemple

club-verif.php

```
....  
$account = new Account();  
  
if (isset($newUser)) { // click sur nouvel usager  
    $id = $account->getIdFromName($nom);  
    if ($id) {  
        echo $nom.' existe deja'.$br;  
    } else {  
        $id = $account->addAccount($nom,$motDePasse);  
        echo 'user id added '.$id.$br;  
    }  
} else {  
    if (isset($editUser)) {  
        echo "Edition pas encore implementee".$br;  
    } else if (login($nom,$motDePasse)) {  
        echo 'Account ID: ' . $account->getId() . '<br>';  
        echo 'Account name: ' . $account->getName() . '<br>';  
    }  
}  
echo $back.$br;  
>  
  
</body>  
</html>
```