MySQLManager 类封装

1. 简述

一般来说，php连接数据库需要以下几个步骤

1）连接mysql服务

2）获得link资源对象

3）连接数据库use database

4）设置访问的字符编码集

5）增删改查

6）获取查询结果

7）解析得到查询结果

如果每次数据库操作都经过这些步骤，那。。。太繁琐了

所以，一次接口脚本的执行期间，只需要使用同一个链接即可。实现单例模式

2. 实现

```php
class MySQLManager
{
    public $host;
    public $port;
    public $username;
    public $password;
    public $charset;
    public $dbname;
    public $link;
    private static $instance;//静态实例

    //############# 私有方法 #############
    private function __construct($config){
        //初始化数据
        $this->host = isset($config["host"]) ? $config["host"]:"localhost";
        $this->port = isset($config["port"]) ? $config["port"]:"3306";
        $this->username = isset($config["username"]) ? $config["username"]:"root";
        $this->password = isset($config["password"]) ? $config["password"] : "root";
        $this->charset = isset($config["charset"]) ? $config["charset"] : "utf8";
        $this->dbname = isset($config["dbname"]) ? $config["dbname"] : "";

        //连接数据库
        $this->connect();

        //设置字符集
        $this->setCharset();
    }
    private function __clone(){}

    private function connect(){
        $link = mysqli_connect("$this->host",$this->username,$this->password,$this->dbname) or die("连接数据库失败");
        $this->link = $link;
    }

    private function setCharset(){
        mysqli_set_charset($this->link, $this->charset);
    }

    private function query($sql){
        $result = mysqli_query($this->link, $sql);
        if(!$result){
            echo "<br>执行失败。";
            echo "<br> 失败的sql语句为:".$sql;
            echo "<br> 出错信息为:".mysqli_error($this->link);
            echo "<br> 错误代码为:".mysqli_errno($this->link);
            die();
        }
        return $result;
    }

    //############# 公有方法 #############
    public static function sharedManager($config){
        if(!isset(self::$instance))  {
            self::$instance = new self($config);
        }
        return self::$instance;
    }
}
```

增删改

```php
//新增一条数据,返回是否成功
public function insertObjects($sql){
    $result = $this->query($sql);
    if($result){
        return true;
    }
    return false;
}

//删除一条数据,返回是否成功
public function deleteObjects($sql){
    $result = $this->query($sql);
    if($result){
        return true;
    }
    return false;
}

//修改一条数据,返回是否成功
public function updateObjects($sql){
    $result = $this->query($sql);
    if($result){
        return true;
    }
    return false;
}
```

查多条、查单条、查单值

```php
//查询多条数据, 返回一个数组
public function selectAllObjects($sql){
    $result = $this->query($sql);
    if($result){
        $arr = array();//空数组
        while ($rec = mysqli_fetch_assoc($result)){
            array_push($arr, $rec);
        }
    }
    return $arr;
}

//查询一条数据, 返回一个字典
public function selectObject($sql){
    $result = $this->query($sql);
    if(!$result){
        $rec = mysqli_fetch_assoc($result);
        return $rec;
    }
    return (object)null;
}

//查询一个数据, 返回一个值
public function selectValue($sql){
    $result = $this->query($sql);
    if($result){
        $rec = mysqli_fetch_row($result);
        return $rec[0];
    }
    return null;
}
}
```

3. 使用

   (1) 导入MySQLManager类(也可以使用__autoload)

   ```php
   include "MySQLManager.php";
   ```

   (2) 实例化数据库管理类

   ```php
   $tool = MySQLManager::sharedManager(
       [
           "dbname"=>"test",//连接数据库
           "password"=>"cwn152522"//连接密码
       ]);//连接test数据库
   ```

   (3) 增删改操作

   ```php
   //增
   #$result = $tool->insertObjects("insert into sqli_test(name) values('张三')");
   //删
   #$result = $tool->deleteObjects("delete from sqli_test");
   //改
   #$result = $tool->updateObjects("update  sqli_test set name = '李四' where name= '张三'");
   ```

(4) 查

```php
//查
//查一个数组[]
$result = $tool->selectAllObjects("select *from product");
//查一个对象{}
//$result = $tool->selectObject("select *from sqli_test");
//查一个值value
#$result = $tool->selectValue("select count(*) from sqli_test");

echo json_encode($result);//以json格式输出查询结果
```

结果：

```
← → C  ⓘ localhost/index.php

[
  - {
        pro_id: "1",
        pro_name: "康佳(KONKA) 42英寸全高清液晶电视",
        protype_id: "1",
        price: "1999",
        pinpai: "康佳",
        chandi: "深圳"
    },
  - {
        pro_id: "2",
        pro_name: "索尼(SONY) 4G手机(黑色)",
        protype_id: "2",
        price: "3238",
        pinpai: "索尼",
        chandi: "深圳"
    },
  - {
        pro_id: "3",
        pro_name: "海信(Hisense) 55英寸智能电视",
        protype_id: "1",
        price: "4199",
        pinpai: "海信",
        chandi: "青岛"
    },
  - {
        pro_id: "4",
        pro_name: "联想(Lenovo) 14英寸笔记本电脑",
        protype_id: "3",
        price: "5499",
        pinpai: "联想",
        chandi: "北京"
    },
  - {
        pro_id: "5",
        pro_name: "索尼(SONY) 13.3英寸触控超极本",
        protype_id: "3",
        price: "11499",
        pinpai: "索尼",
        chandi: "天津"
    },
  - {
        pro_id: "6",
        pro_name: "索尼(SONY) 60英寸全高清液晶电视",
        protype_id: "1",
        price: "6999",
        pinpai: "索尼",
        chandi: "北京"
    },
```