CAN302 – Technologies for e-commerce

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# Lab 5 – JOIN and “multipart/form-data”

## Aim

The aim of this lab is using “products” as an example to show the operation of data stored in more than one tables and how to upload a file to server.

We will use the code from last lab and today’s code will be used in future labs.

## Resources

1. You should continuously use the all settings of last lab.

## Tips:

1. If you are not sure why you are doing something, ask a TA. This is what they are here for.

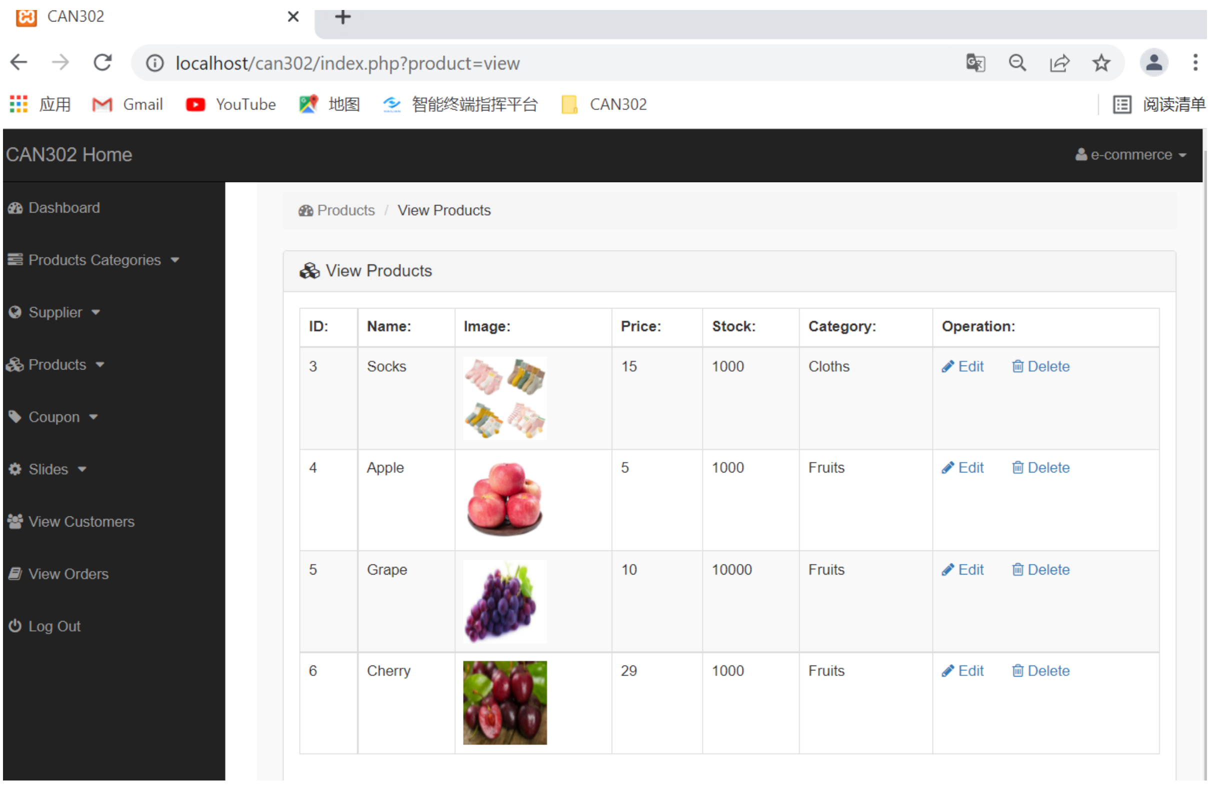
2. Our labs have different focus than the M-Dev-Store online videos. While if you want to be an expert, you are recommended take both labs and on-line videos.

3. The forums are available for questions and discussions.

4. These labs are expected take more than the 2 allocated hours. You should complete them in your own time before the next lab. Practice makes perfect!

## The final effect of this lab:

Let’s make “products” with its full functions. After this lab, you can manage the products by webpages. We can view them like this:



| ID: | Name: | Image: | Price: | Stock: | Category: | Operation: |
|---|---|---|---|---|---|---|
| 3 | Socks | | 15 | 1000 | Cloths | Edit Delete |
| 4 | Apple | | 5 | 1000 | Fruits | Edit Delete |
| 5 | Grape | | 10 | 10000 | Fruits | Edit Delete |
| 6 | Cherry | | 29 | 1000 | Fruits | Edit Delete |

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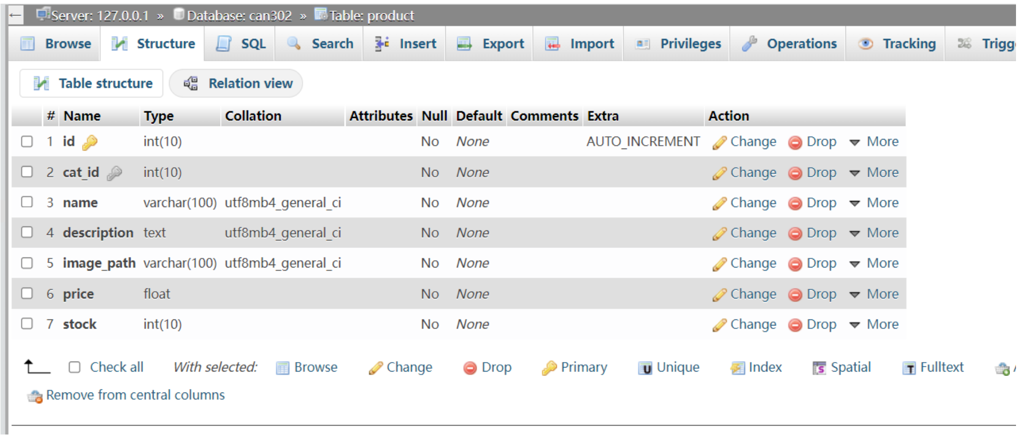
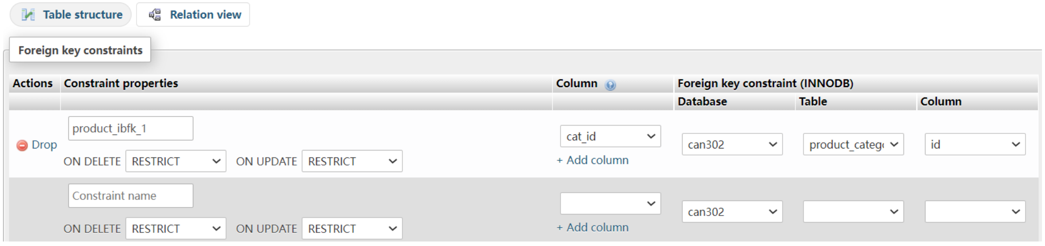
## Prepare the table in database:

1. Like previous lab, we need to create a table in the database.
   Open http://localhost/phpmyadmin/ and create a table named “product” as:



| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|---|---|---|---|---|---|---|---|---|---|
| 1 | id | int(10) | | | No | None | | AUTO_INCREMENT | Change Drop More |
| 2 | cat_id | int(10) | | | No | None | | | Change Drop More |
| 3 | name | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 4 | description | text | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 5 | image_path | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 6 | price | float | | | No | None | | | Change Drop More |
| 7 | stock | int(10) | | | No | None | | | Change Drop More |

Please note “cat_id” has a special logo, which is called “foreign key”. In relation view, it is as:



| Actions | Constraint properties | Column | Foreign key constraint (INNODB)<br>Database | <br>Table | <br>Column |
|---|---|---|---|---|---|
| Drop | product_ibfk_1<br>ON DELETE RESTRICT ON UPDATE RESTRICT | cat_id<br>+ Add column | can302 | product_categ | id |
| | Constraint name<br>ON DELETE RESTRICT ON UPDATE RESTRICT | + Add column | can302 | | |

It means this column (“cat_id”) has a link to the “id” of table product_category. We cannot insert a value which is not in product_category and when there is value refer to the id value of product_category, that id cannot be deleted.

## <select>, <textarea> and “file”:

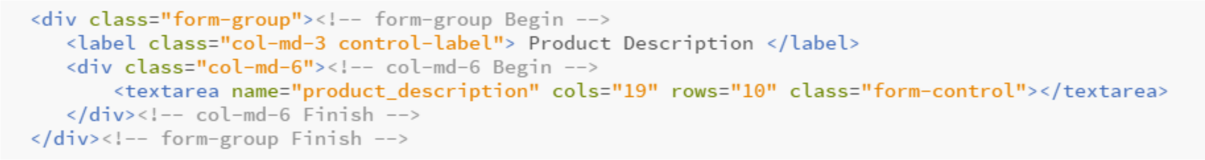
Functions (View, add, update, delete product) are similar to last lab - “product_category”. Some new elements are:

2. Use <select> tag to choose product category, key code is as:

```
<div class="form-group"><!-- form-group Begin -->
   <label class="col-md-3 control-label"> Product Category </label>
   <div class="col-md-6"><!-- col-md-6 Begin -->
       <select name="product_cat_id" class="form-control"><!-- form-control Begin -->
           <option> Select a category </option>
           <?php
             $get_p_cats = "select * from product_category";
             $run_p_cats = mysqli_query($con,$get_p_cats);
             while ($row_p_cats=mysqli_fetch_array($run_p_cats)){
                 $p_cat_id = $row_p_cats['id'];
                 $p_cat_name = $row_p_cats['name'];
                 echo "<option value='$p_cat_id'> $p_cat_name </option>";
           }
           ?>
       </select><!-- form-control Finish -->
   </div><!-- col-md-6 Finish -->
</div><!-- form-group Finish -->
```

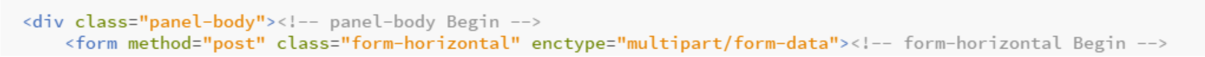
As the design, we only allow user to choose a product_category which is already in the database. We have prepared the table with foreign key to gurrante such relation. All choices in <select> tag are queried from database to make sure the data consistence.

For despcrption, we may need to input many words. Then we use <textarea> tag for that as:



```
<div class="form-group"><!-- form-group Begin -->
   <label class="col-md-3 control-label"> Product Description </label>
   <div class="col-md-6"><!-- col-md-6 Begin -->
       <textarea name="product_description" cols="19" rows="10" class="form-control"></textarea>
   </div><!-- col-md-6 Finish -->
</div><!-- form-group Finish -->
```

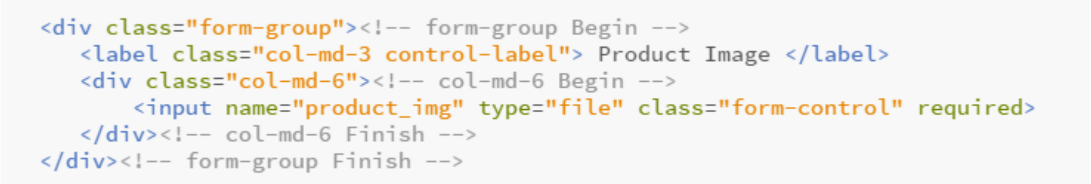
<form> tag suport to upload a file from browser to server. We need to claim for encoder to active such funtion as:



```
<div class="panel-body"><!-- panel-body Begin -->
    <form method="post" class="form-horizontal" enctype="multipart/form-data"><!-- form-horizontal Begin -->
```

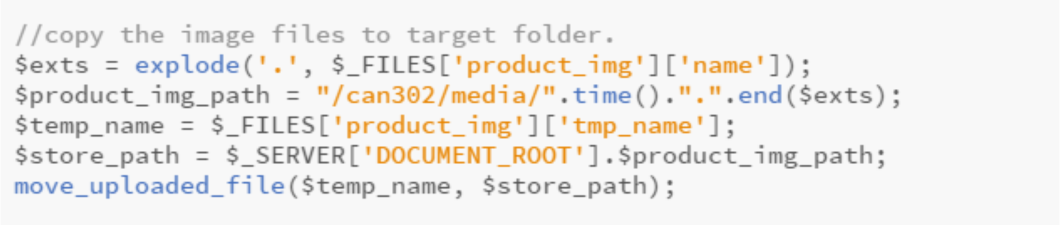
Please note the value of enctype is multipart/form-data.

Then we can specify the type of input to be "file", the code is as:



```
<div class="form-group"><!-- form-group Begin -->
   <label class="col-md-3 control-label"> Product Image </label>
   <div class="col-md-6"><!-- col-md-6 Begin -->
       <input name="product_img" type="file" class="form-control" required>
   </div><!-- col-md-6 Finish -->
</div><!-- form-group Finish -->
```

All the rest code in form part are similiar with "add.php" for product_category. The PHP code to process the <select> and <textarea> are also similiar with "add.php" for product_category. The code to process "file" is as:



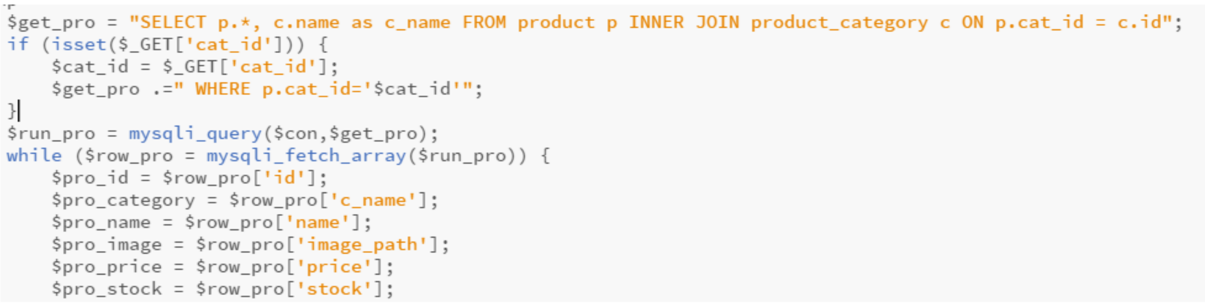
```
//copy the image files to target folder.
$exts = explode('.', $_FILES['product_img']['name']);
$product_img_path = "/can302/media/".time().".".end($exts);
$temp_name = $_FILES['product_img']['tmp_name'];
$store_path = $_SERVER['DOCUMENT_ROOT'].$product_img_path;
move_uploaded_file($temp_name, $store_path);
```

We create a folder "media" under can302 to sotre these files and we would like to use the same extension of the original file but with a file name from timestamp. In the code, $_FILES['product_img']['name'] means the name of original file. We need to glue the final $store_path. $_FILES['product_img']['tmp_name'] means the temporary filename of the upload file which is stored in temp folder of XAMPP. Then we use method move_uploaded_file() move the temp uploaded file to the folder "media".

Please note, once the server allow people to upload a file, it means the gate is **OPEN**! For example, people can upload a file with virus and trigger it remotely. Many issues need to be addressed carefully. Our code here is only an example to show the function of upload. It should **NOT** be used in any official systems.

## JOIN (tables):

3. As showed in the final effect, we would like to show the category name of each product, however we only store the category id in product table. For sure, we can query the product category name for each product. It means we need query many times. In SQL, there is a magic word “JOIN”, we can use it as:



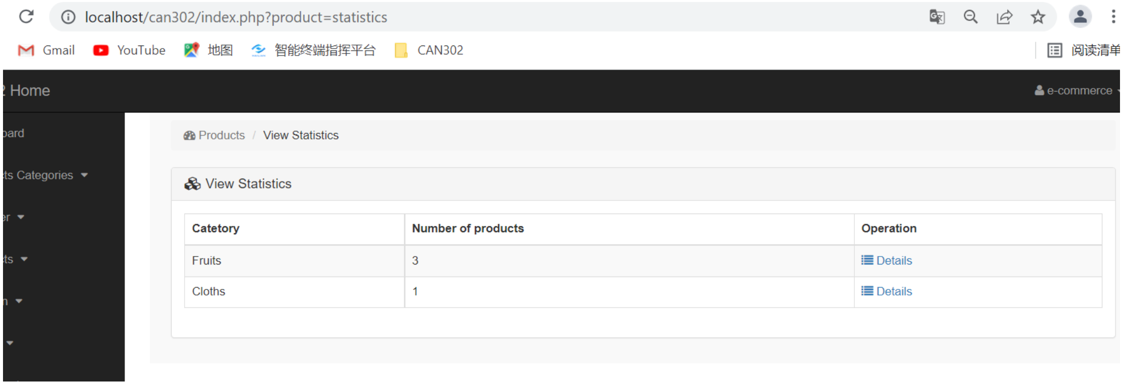
```
$get_pro = "SELECT p.*, c.name as c_name FROM product p INNER JOIN product_category c ON p.cat_id = c.id";
if (isset($_GET['cat_id'])) {
    $cat_id = $_GET['cat_id'];
    $get_pro .=" WHERE p.cat_id='$cat_id'";
}
$run_pro = mysqli_query($con,$get_pro);
while ($row_pro = mysqli_fetch_array($run_pro)) {
    $pro_id = $row_pro['id'];
    $pro_category = $row_pro['c_name'];
    $pro_name = $row_pro['name'];
    $pro_image = $row_pro['image_path'];
    $pro_price = $row_pro['price'];
    $pro_stock = $row_pro['stock'];
```

So, we can get values from two tables in one query. Because both tables have the “name” column, we need to the c.name as c_name to avoid the conflict.

4. Try to work out delete and edit by yourself. It is a good measure for your skills about php. And to test all above, don’t forget to integrate them to index and frame.

## Extend questions:

5. Once we have many info, we would like to read “reports”, it may need data from different tables with a certain logic. A very simple example is shown in “View Statistics“ as:



View Statistics

| Catetory | Number of products | Operation |
|---|---|---|
| Fruits | 3 | Details |
| Cloths | 1 | Details |

Please try to use the skills that you have learned from our labs to make it.