



Lab Report 6

Admin Panel for Product, Brand Category and order management

Course: CSC381 - E-Commerce

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1. Objective

Design and implement an admin panel to manage products, brands, categories, and orders, enabling administrators to add, update, soft-delete/restore products and to review and update order statuses in a secure, efficient workflow.

2. Tools and Technologies Used

Technology	Purpose
HTML5	Admin pages and form structure
CSS3	Layout and visual styling
JavaScript	Inline confirmations and UI behavior
PHP	Server-side logic, CRUD
MySQL	Persistent storage for catalog and orders
Caddy	Web server and local hosting
Bootstrap 5	Admin UI, tables, forms, responsive grid
VS Code	Development environment
Browser DevTools	Testing and debugging

3. Theory / Background

The admin panel serves as a secure CRUD interface over MySQL, where PHP executes parameterized queries to manage products, brands, categories, and orders. Server-side rendering outputs compact, responsive pages with Bootstrap tables and forms, while output escaping prevents XSS. Soft delete toggles a status flag instead of removing rows, preserving data integrity and references.

4. Page Layout Design

4.1 Product Listing Grid

- Admin list shows products with image, title, price, status, and actions.
- Inline actions: edit, soft delete (disable), and optional restore.
- Compact, responsive rows for quick scanning.

4.2 Filtering by Brand and Category

- Sidebar links filter server-side by brand/category id.
- Empty results display a short “No data found” notice.

4.3 Product Details Page

- Secure load by id (prepared statement).
- Up to three images, description, brand, category, and price.

4.4 Navigation and Search

- Top nav for sections (Products, Brands, Categories, Orders).
- Search form submits to server to filter listings.

4.5 Data and Security Practices

- Prepared statements for all write/read by id.
- Escaped outputs for titles, images, and prices.
- Soft delete via status field; restore supported from admin.

4.6 Order Management

- Admin list shows orders with ID, order number, total amount, payment mode, status, and placed date.
- Inline actions: update status (pending, paid, processing, shipped, delivered, cancelled).
- Responsive table for easy scanning.

5. Code Snippets

5.1 Admin Manage Order

```

1  <?php
2  $flash = '';
3  if ($_SERVER['REQUEST_METHOD'] === 'POST' && isset($_POST['action']) &&
4  $_POST['action'] === 'update_status') {
5      $order_id = isset($_POST['order_id']) ? (int)$_POST['order_id'] : 0;
6      $status   = $_POST['status'] ?? '';
7      if ($order_id <= 0) {
8          $flash = 'Bad order id.';
9      } elseif (!in_array($status, $ALLOWED, true)) {
10         $flash = 'Invalid status.';
11     } else {
12         $u = $conn->prepare("UPDATE orders SET status = ? WHERE id = ?
13         LIMIT 1");
14         $u->bind_param('si', $status, $order_id);
15         if ($u->execute()) {
16             $flash = 'Order status updated.';
17         } else {
18             $flash = 'Update failed.';
19         }
20         $u->close();
21     }
22 }
23 ?>

```

5.2 PHP Code to Add Brand and Category

```

1 // INSERT BRAND
2 <?php
3 $insert_query = "INSERT INTO `brands`(`brand_title`) VALUES
4 ('$brand_title')";
5 $result = mysqli_query($conn, $insert_query);
6
7 if ($result) {
8     echo "<script>alert('Brand has been inserted successfully')</script>";
9 } else {
10    die("Insert failed: " . mysqli_error($conn));
11 }
12 // INSERT CATEGORY

```

```

12 $insert_query = "INSERT INTO `cateogries`(`category_title`) VALUES
13 ('$category_title')";
14 $result = mysqli_query($conn, $insert_query);
15 if ($result) {
16     echo "<script> alert('categories has been inserted
17     successfully')</script>";
18 } else {
19     die("Insert failed: " . mysqli_error($conn));
}
?>

```

5.3 Add Products

```

1 <?php
2 $stmt = $conn->prepare("INSERT INTO `products` (product_title,
3 product_description,product_keywords,category_id,
4 brand_id,product_image1,product_image2,
5 product_image3,product_price,date,
6 status) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, NOW(), ?)");
7
8 if (!$stmt) {
9     error_log('Prepare failed: ' . $conn->error);
10    echo "<script>alert('Database error. Please try again
11    later.');//</script>";
12    exit();
13 }
14 $stmt->bind_param("sssisssds",$product_Title,$product_Desc,
15 $product_Key,$product_Cat,$product_Brand,$uploadedImages[0],
16 $uploadedImages[1],$uploadedImages[2],$product_Price,
17 $product_Status
18 );
19 if ($stmt->execute()) {
20     echo "<script>alert('Product inserted successfully');//</script>";
21 } else {
22     error_log('Execute failed: ' . $stmt->error);
23     echo "<script>alert('Database error. Please try again
24     later.');//</script>";
25 }
?>
26 <div class="form-container shadow-sm">
27 <h2 class="form-title">Add New Product</h2>
28 <form method="POST" action="" enctype="multipart/form-data" novalidate>
29     <label for="product_title">Product Title <span>*</span></label>
30     <input type="text" id="product_title" name="product_title"
31         placeholder="Enter product title" required />

```

```
32 <label for="description">Product Description <span>*</span></label>
33 <textarea id="description" name="description" rows="3"
34     placeholder="Enter product description" required></textarea>
35 <label for="product_keywords">Keywords <span>*</span></label>
36 <input type="text" id="product_keywords" name="product_keywords"
37     placeholder="Enter keywords separated by comma" required />
38
39 <label for="product_category">Category <span>*</span></label>
40 <select id="product_category" name="product_category" required>
41     <option value="" disabled selected>Select category</option>
42     <?php
43         $categories = mysqli_query($conn, "SELECT * FROM categories");
44         while ($cat = mysqli_fetch_assoc($categories)) {
45             echo "<option
46                 value='{$cat['category_id']}'>{$cat['category_title']}
```

5.4 PHP: Edit Product

```

1  <?php
2  $stmt2 = $conn->prepare("
3      UPDATE products
4          SET product_title = ?, product_description = ?,
5              product_keywords = ?, category_id = ?,
6              brand_id = ?, product_image1 = ?,
7              product_image2 = ?, product_image3 = ?,
8              product_price = ?, status = ?
9      WHERE product_id = ?
10     LIMIT 1
11 ");
12
13 $typeString = 'sssiisssssi';
14 $stmt2->bind_param(
15     $typeString, $title, $desc, $keys, $catId, $brandId,
16     $images['product_image1'], $images['product_image2'],
17     $images['product_image3'], $price, $status, $product_id
18 );
19
20 if ($stmt2->execute()) {
21     echo "<script>alert('Product updated successfully.')</script>";
22 } else {
23     echo "<script>alert('Update failed. Please try again.')</script>";
24 }
25 $stmt2->close();
26 ?>
27 <form method="post" enctype="multipart/form-data" class="row g-3 bg-white
p-3 rounded shadow-sm">
28     <label class="form-label">Title</label>
29     <input type="text" name="product_title" value="<?=
e($current['product_title']) ?>" required>
30
31     <label class="form-label">Keywords</label>
32     <input type="text" name="product_keywords" value="<?=
e($current['product_keywords']) ?>" required>
33
34     <label class="form-label">Description</label>
35     <textarea name="product_description" rows="4" required><?=
e($current['product_description']) ?></textarea>
36
37     <label class="form-label">Brand</label>
38     <select name="brand_id" required>
39         <option value="">Select brand...</option>
40         <?php foreach ($brands as $b): ?>
41             <option value="<?= (int)$b['brand_id'] ?>" <?=
$current['brand_id']==$b['brand_id']?'selected':'' ?>>

```

```
42      <?= e($b['brand_title']) ?>
43    </option>
44  <?php endforeach; ?>
45 </select>
46
47  <label class="form-label">Category</label>
48  <select name="category_id" required>
49    <option value="">Select category...</option>
50    <?php foreach ($cats as $c): ?>
51      <option value="<?= (int)$c['category_id'] ?>" <?=
52        $current['category_id']==$c['category_id']?'selected':'' ?>
53        <?= e($c['category_title']) ?>
54      </option>
55    <?php endforeach; ?>
56  </select>
57
58  <label class="form-label">Price</label>
59  <input type="text" name="product_price" value="<?=
e($current['product_price']) ?>" required>
60
61  <label class="form-label">Status</label>
62  <select name="status" required>
63    <option value="true" <?= $current['status']=='true'? 'selected':''
?>>Active</option>
64    <option value="false" <?= $current['status']!='true'? 'selected':''
?>>Inactive</option>
65  </select>
66
67  <label>Replace Image 1</label>
68  <input type="file" name="product_image1" accept="image/*">
69
70  <label>Replace Image 2</label>
71  <input type="file" name="product_image2" accept="image/*">
72
73  <label>Replace Image 3</label>
74  <input type="file" name="product_image3" accept="image/*">
75
76  <button type="submit">Save</button>
77  <a href="index.php?list_products">Back</a>
78 </form>
```

6. Output / Screenshots

The screenshot shows a web-based admin interface titled "Insert Categories". At the top, there is a blue header bar with a small icon and the text "NewCat". Below the header, the main content area has a light gray background. It contains a single input field with the value "NewCat" and a blue "Insert Categories" button at the bottom.

Figure 1: Insert Category.

The screenshot shows a web-based admin interface titled "Insert Brands". At the top, there is a blue header bar with a small icon and the text "Philips". Below the header, the main content area has a light gray background. It contains a single input field with the value "Philips" and a blue "Insert Brands" button at the bottom.

Figure 2: Insert Brand.

The screenshot shows a web-based admin interface titled "Add New Product". The page has a purple header bar with the title "Add New Product". Below the header, the main content area has a white background. It contains several input fields and dropdown menus:

- Product Title ***: MacBook Air
- Product Description ***: SPEED OF LIGHTNESS — MacBook Air with the M4 chip lets you blaze through work and play. With Apple Intelligence,* up to 18 hours of battery life.*
- Keywords ***: m4,13-inch,ssd,macbook
- Category ***: Electronics
- Brand ***: Apple
- Price (NPR) ***: 104200
- Upload Images***:
 - Browse... mac1.jpg
 - Browse... mac2.jpg
 - Browse... mac3.jpg

At the bottom right of the form is a blue "Insert Product" button.

Figure 3: Insert Product.

The screenshot shows the 'Edit Product' form on a web browser. The URL in the address bar is https://ecomlab.parakram.local/admin/admin_edit_product.php?product_id=23. The form fields include:

- Title:** Samsung Galaxy Watch 6 Classic
- Keywords:** samsung, smartwatch, wearables, electronics
- Description:** Premium smartwatch from Samsung with rotating bezel, ECG, and long battery life.
- Brand:** Samsung
- Category:** Electronics
- Price:** 349.99
- Status:** Inactive
- Current Images:** Three small thumbnail images showing different angles of the watch.
- Replace Image 1, 2, 3:** Buttons for replacing the first three product images.

At the bottom are 'Save' and 'Back' buttons.

Figure 4: Edit Product.

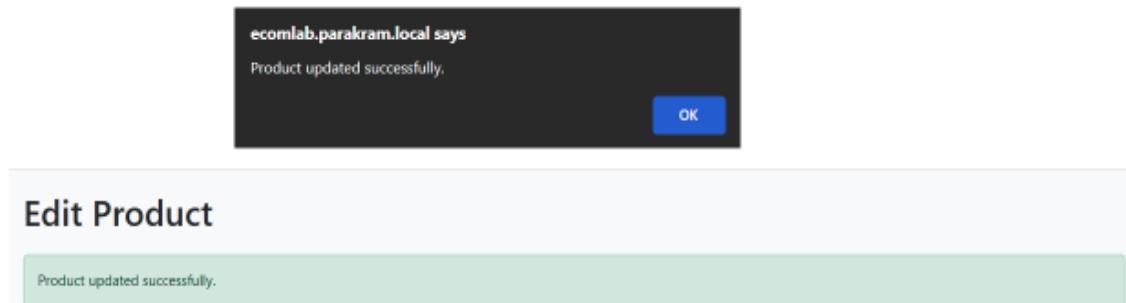


Figure 5: Edit Product Success.

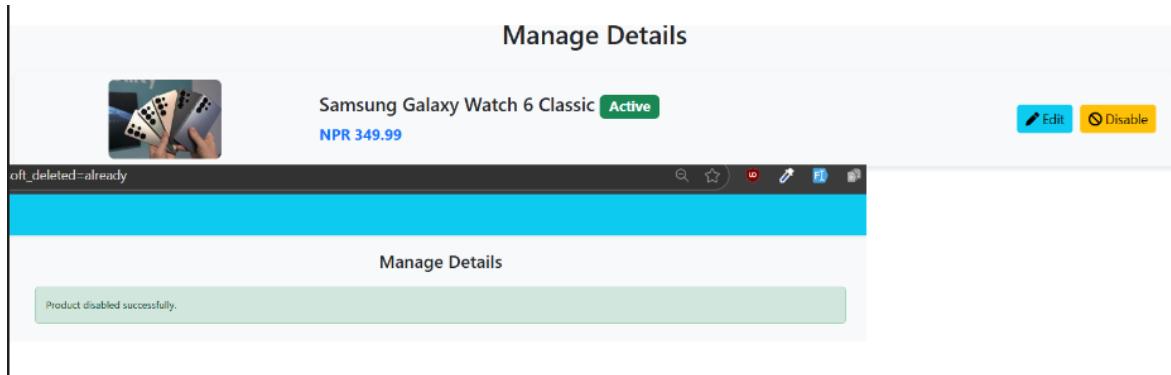


Figure 6: Delete Product.

Order Management							
ID	Order #	Total	Payment	Items	Status	Placed	Actions
8	ORD-2008	0.00	card	2	processing	2025-11-12 14:19:02	Process ▼ Save
7	ORD-2007	0.00	cod	3	pending	2025-11-12 04:19:02	Pending ▼ Save
6	ORD-2006	0.00	card	1	cancelled	2025-11-11 16:19:02	Cancelled ▼ Save
5	ORD-2005	0.00	card	2	delivered	2025-11-10 16:19:02	Delivered ▼ Save
4	ORD-2004	0.00	cod	3	shipped	2025-11-09 16:19:02	Shipped ▼ Save
3	ORD-2003	0.00	card	2	processing	2025-11-08 16:19:02	Process ▼ Save
2	ORD-2002	0.00	card	2	paid	2025-11-07 16:19:02	Paid ▼ Save
1	ORD-2001	0.00	cod	2	pending	2025-11-06 16:19:02	Pending ▼ Save

Showing latest 100 orders.

Figure 7: Order Management.

7. Result

The admin panel enables secure CRUD over the catalog and orders: products can be added, edited, soft-deleted/restored, and listed with images, price, and status. Orders are listed with totals and item counts, and their statuses can be updated inline (pending, paid, processing, shipped, delivered, cancelled). All interactions use parameterized queries, escaped outputs, and responsive Bootstrap tables and forms for reliable, fast administration.

8. Conclusion

The system delivers a maintainable back office for catalog and order management with clear workflows and safe data handling. Server-side rendering, prepared statements, and output escaping ensure integrity, while soft delete preserves history. The panel is ready for extensions like pagination, role-based access, audit logs, and export/reporting.

9. References

- PHP mysqli Prepared Statements
- PHP htmlspecialchars
- MySQL UPDATE Reference
- MySQL SELECT Reference
- Bootstrap 5 Documentation
- MDN HTTP Reference
- Caddy Web Server Documentation