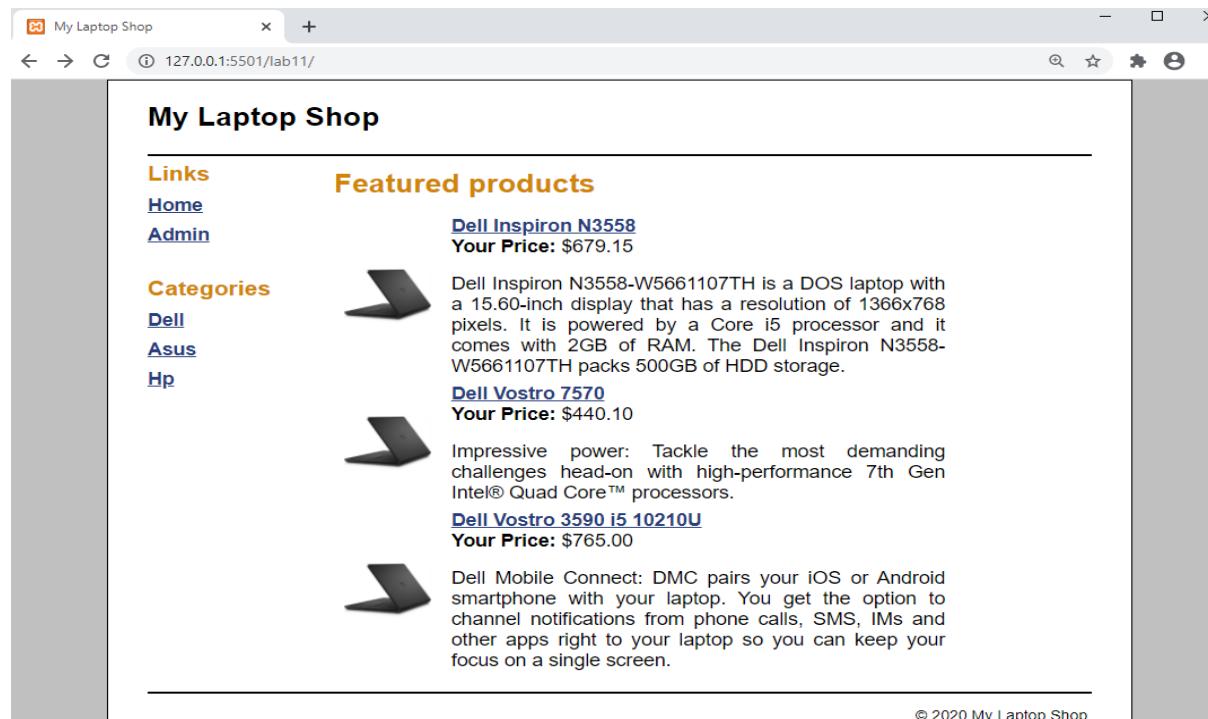


**Lab 11.** Xây dựng ứng dụng web TMĐT theo mô hình MVC. Bổ sung thêm chức năng liên kết đến trang Home, Admin, hiển thị thông tin ba sản phẩm nổi bật (**Featured products**) cho phân hệ người dùng, thành phần **SummerNote Editor** mô tả sản phẩm (trường description) và trường discountPercent cho trang thêm, sửa thông tin sản phẩm. Một số giao diện ứng dụng website như sau:

+ Giao diện hiển thị liên kết đến trang **Home, Admin** và thông tin 3 sản phẩm nổi bật

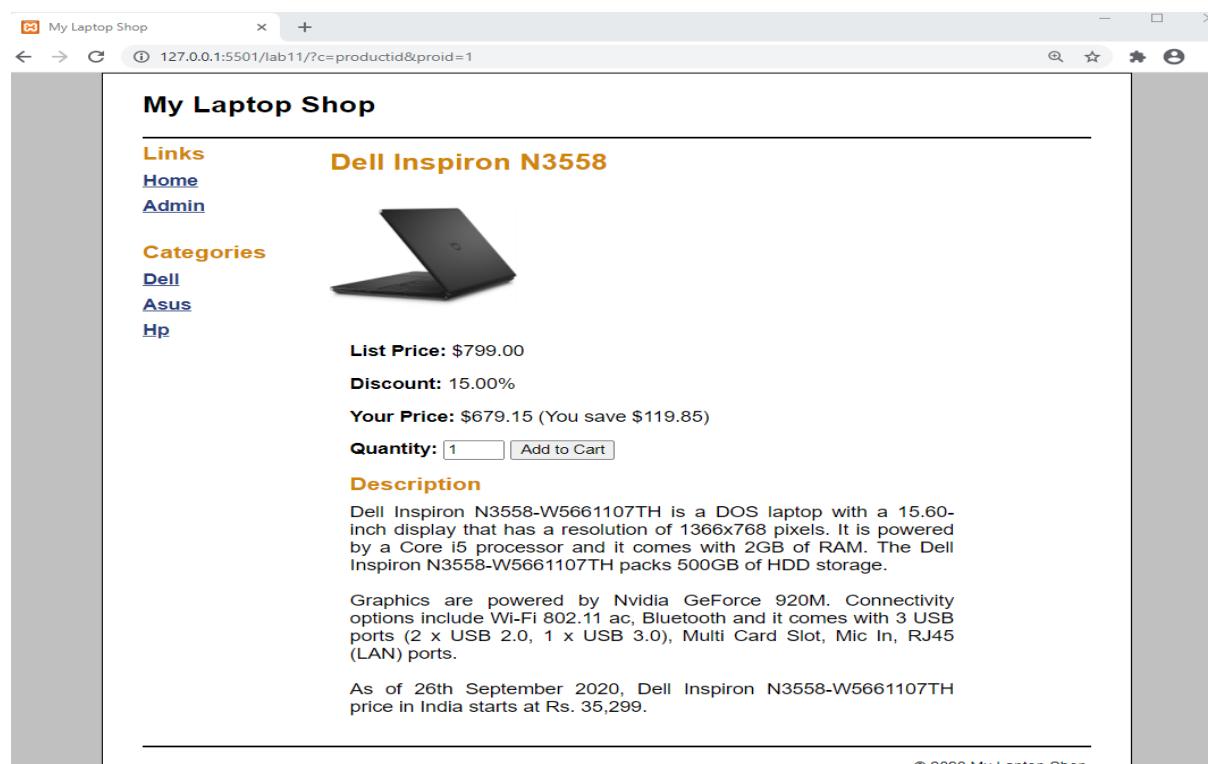


The screenshot shows the homepage of a website titled "My Laptop Shop". On the left, there is a sidebar with "Links" (Home, Admin) and "Categories" (Dell, Asus, Hp). The main content area is titled "Featured products" and lists three items:

- Dell Inspiron N3558**  
Your Price: \$679.15  
  
Dell Inspiron N3558-W5661107TH is a DOS laptop with a 15.60-inch display that has a resolution of 1366x768 pixels. It is powered by a Core i5 processor and it comes with 2GB of RAM. The Dell Inspiron N3558-W5661107TH packs 500GB of HDD storage.
- Dell Vostro 7570**  
Your Price: \$440.10  
  
Impressive power: Tackle the most demanding challenges head-on with high-performance 7th Gen Intel® Quad Core™ processors.
- Dell Vostro 3590 i5 10210U**  
Your Price: \$765.00  
  
Dell Mobile Connect: DMC pairs your iOS or Android smartphone with your laptop. You get the option to channel notifications from phone calls, SMS, IMs and other apps right to your laptop so you can keep your focus on a single screen.

At the bottom right, it says "© 2020 My Laptop Shop."

+ Giao diện trang hiển thị chi tiết 1 sản phẩm



The screenshot shows the product detail page for the "Dell Inspiron N3558". The left sidebar is identical to the homepage. The main content area shows the product title "Dell Inspiron N3558" and an image of the laptop. Below the image, the following details are listed:

- List Price: \$799.00
- Discount: 15.00%
- Your Price: \$679.15 (You save \$119.85)
- Quantity:  Add to Cart

Under the heading "Description", there is a detailed product description and a note about its availability in India:

Dell Inspiron N3558-W5661107TH is a DOS laptop with a 15.60-inch display that has a resolution of 1366x768 pixels. It is powered by a Core i5 processor and it comes with 2GB of RAM. The Dell Inspiron N3558-W5661107TH packs 500GB of HDD storage.  
Graphics are powered by Nvidia GeForce 920M. Connectivity options include Wi-Fi 802.11 ac, Bluetooth and it comes with 3 USB ports (2 x USB 2.0, 1 x USB 3.0), Multi Card Slot, Mic In, RJ45 (LAN) ports.  
As of 26th September 2020, Dell Inspiron N3558-W5661107TH price in India starts at Rs. 35,299.

At the bottom right, it says "© 2020 My Laptop Shop."

+ Giao diện hiển thị trang thêm sản phẩm

**Product List**

**Add Product**

Categories

- [Dell](#)
- [Asus](#)
- [Hp](#)

Category:	Dell
Code:	<input type="text" value="n3558"/>
Name:	<input type="text" value="Dell Inspiron N3558"/>
List Price:	<input type="text" value="799.00"/>
Discount Percent:	<input type="text" value="15.00"/>
Description:	<div style="border: 1px solid #ccc; padding: 5px;"> <span style="font-size: small;">Must be a valid number.</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span style="font-size: small;">Must be a valid number.</span> </div>

**Add Product**

[View Product List](#)

© 2020 My Laptop Shop.

+ Giao diện hiển thị trang sửa thông tin sản phẩm

**Product List**

**Edit Product**

Categories

- [Dell](#)
- [Asus](#)
- [Hp](#)

Category:	Dell
Code:	n3558
Name:	Dell Inspiron N3558
List Price:	799.00
Discount Percent:	15.00
Description:	<div style="border: 1px solid #ccc; padding: 5px;"> <p>Dell Inspiron N3558-W5661107TH is a DOS laptop with a 15.60-inch display that has a resolution of 1366x768 pixels. It is powered by a Core i5 processor and it comes with 2GB of RAM. The Dell Inspiron N3558-W5661107TH packs 500GB of HDD storage.</p> <p>Graphics are powered by Nvidia GeForce</p> </div>

**Update**

[View Product List](#)

© 2020 My Laptop Shop.

**Gợi ý:**

- **B1.** Chạy lại script sql sau, bổ sung thêm hai trường **description**, **discountpercent** cho bảng **Product**

ALTER TABLE products

ADD description TEXT NULL,

ADD discountPercent DECIMAL(10,2) NULL DEFAULT 0.00;

- **B2.** Mở file điều hướng chức năng **admin\index.php** (controller) thêm các file thư viện **.css** và **.js** để sử dụng Editor Summernote.

```
<link rel="stylesheet" type="text/css" href="../public/css/main.css">
<!-- Summernote -->
<link rel="stylesheet" href="../public/Css/bootstrap43-iso.css">
<link rel="stylesheet" href="../public/Css/jquery-ui.min.css">
<link rel="stylesheet" href="../public/summernote/summernote-bs4.min.css">
<script src="../public/Js/jquery-3.4.1.min.js"></script>
<script src="../public/Js/jquery-ui.min.js"></script>
<script src="../public/Js/popper.min.js"></script>
<script src="../public/Js/bootstrap-4.3.1.js"></script>
<script src="../public/summernote/summernote-bs4.min.js"></script>
```

- **B3.** Mở file **model\bl\product.php** viết mã thêm các thuộc tính **description**, **discountpercent** và các phương thức **getDiscountPercent()**, **setDiscountPercent()**, **getDescription()**, **setDescription()** cho lớp **Product**. Mở file **model\bl\product\_db.php** cập nhật lại mã cho ba phương thức **getProductById()** và **addProduct()** và **updateProduct()** để xử lý các nghiệp vụ thêm, sửa dữ liệu sản phẩm đã bổ sung thêm hai thuộc tính trên. (lưu ý phải cập nhật lại các phương thức **getProducts()**, **getProductsByCategoryId()**, **getProductsPagingByCategoryId()** của lớp **product\_db.php** để lấy dữ liệu với hai thuộc tính đã bổ sung)

```
<?php
class Product {
    private $id, $categoryId, $code, $name, $price, $discountPercent, $description;
    public function getId() {
        return $this->id;
    }
    public function setId($value) {
        $this->id = $value;
    }
}
```

```
public function getCategoryId() {
    return $this->categoryId;
}

public function setCategoryId($value) {
    $this->categoryId = $value;
}

public function getCode() {
    return $this->code;
}

public function setCode($value) {
    $this->code = $value;
}

public function getName() {
    return $this->name;
}

public function setName($value) {
    $this->name = $value;
}

public function getPrice() {
    return $this->price;
}

public function setPrice($value) {
    $this->price = $value;
}

public function getDiscountPercent() {
    return $this->discountPercent;
}

public function setDiscountPercent($value) {
    $this->discountPercent = $value;
}

public function getDescription() {
    return $this->description;
}
```

```

public function setDescription($value) {
    $this->description = $value;
}

public function getPriceFormatted() {
    $formatted_price = number_format($this->price, 2);
    return $formatted_price;
}

public function getDiscountAmount() {
    $discount_percent = $this->getDiscountPercent() / 100;
    $discount_amount = $this->price * $discount_percent;
    $discount_amount_r = round($discount_amount, 2);
    $discount_amount_f = number_format($discount_amount_r, 2);
    return $discount_amount_f;
}

public function getDiscountPrice() {
    $discount_price = $this->price - $this->getDiscountAmount();
    $discount_price_f = number_format($discount_price, 2);
    return $discount_price_f;
}

?>

```

- **B4.** Mở file **admin\view\product\add.php** bổ sung thêm các đoạn mã để hiển thị thành phần **Editor Summernote** cho trường **Description** của bảng **Products**. Và viết mã để thực hiện thêm sản phẩm vào bảng Products.

```

<?php

$categories = CategoryDB::getCategories();

//Sets up fields

$validate = new Validate();

$fields = $validate->getFields();

$fields->addField('code');

$fields->addField('name');

$fields->addField('price','Must be a valid number.');

$fields->addField('discountPercent','Must be a valid number.');

```

```

if(Helper::is_submit('add_product'))
{
    $product = new Product();
    $product->setCategoryId(Helper::input_value('category_id'));
    $product->setCode(Helper::input_value('code'));
    $product->setName(Helper::input_value('name'));
    $product->setDescription(Helper::input_value('description'));
    $product->setPrice(Helper::input_value('price', FILTER_VALIDATE_FLOAT));
    $product->setDiscountPercent(Helper::input_value('discountPercent', FILTER_VALIDATE_FLOAT));
    //Validate form data
    $validate->text('code', $product->getCode(), true, 1, 10);
    $validate->text('name', $product->getName());
    $validate->number('price', $product->getPrice(), false);
    $validate->number('discountPercent', $product->getDiscountPercent(), false);
    if(!$fields->hasErrors() && ProductDB::addProduct($product))
    {
        Helper::redirect('?c=listpro');
    }
}
?>
<h1>Add Product</h1>
<form action="" method="post" id="action_form">
    <input type="hidden" name="action" value="add_product">
    <label>Category:</label>
    <select name="category_id">
        <?php
            if(!empty($categories))
                foreach ($categories as $category) : ?>
                    <option value="<?php echo $category->getId(); ?>">
                        <?php echo $category->getName(); ?>
                    </option>
            <?php endforeach; ?>
        </select>
        <br>

```

```
<label>Code:</label>
<input type="input" name="code" value=<?php echo Helper::input_value('code');?>>
<!-- Dispaly message error -->
<?php echo $fields->getField('code')->getHTML(); ?>
<br>
<label>Name:</label>
<input type="input" name="name" value=<?php echo Helper::input_value('name'); ?>>
<?php echo $fields->getField('name')->getHTML(); ?>
<br>
<label>List Price:</label>
<input type="input" name="price" value=<?php echo Helper::input_value('price'); ?>>
<?php echo $fields->getField('price')->getHTML(); ?>
<br>
<label>Discount Percent:</label>
<input type="text" name="discountPercent"
       value=<?php echo Helper::input_value('discountPercent'); ?>>
<?php echo $fields->getField('discountPercent')->getHTML(); ?>
<br>
<div style="clear:both"></div>
<label>Description:</label>
<div class="bootstrap43-iso">
    <textarea class="summernote" name="description">
        <?php echo Helper::input_value('description'); ?>
    </textarea>
</div>
<br>
<label>&nbsp;</label>
<input type="submit" value="Add Product">
<br>
</form>
<p><a href=<?php echo Helper::get_url('admin/?c=listpro');?>>View Product List</a></p>
<script>
$(document).ready(function() {
    //Thiết lập Editor Summernote
```

```

$('.summernote').summernote({
    height: 240,           // set editor height
    minHeight: null,       // set minimum height of editor
    maxHeight: null,       // set maximum height of editor
    focus: false           // set focus to editable area after
});
</script>

```

- **B5.** Tương tự bước B3, mở file **admin\view\product\edit.php** bổ sung thêm các đoạn mã để hiển thị thành phần Editor Summernote cho trường **Description** của bảng **Products**. Và viết mã để thực hiện cập nhật dữ liệu vào bảng Products.

```

<?php
$categories = CategoryDB::getCategories();
if(!empty(Helper::input_value('proid')))
{
    $product = ProductDB::getProductById(Helper::input_value('proid'));
    if(Helper::is_submit('edit_product'))
    {
        $product->setCategoryId(Helper::input_value('category_id'));
        $product->setCode(Helper::input_value('code'));
        $product->setName(Helper::input_value('name'));
        $product->setDescription(Helper::input_value('description'));
        $product->setPrice(Helper::input_value('price'));
        $product->setDiscountPercent(Helper::input_value('discountPercent'));
        if(ProductDB::updateProduct($product))
            Helper::redirect('?c=listpro');
    }
}
?>
<h1>Edit Product</h1>
<form action="" method="post" id="action_form">
    <input type="hidden" name="action" value="edit_product">
    <label>Category:</label>
    <select name="category_id">

```

```
<?php
if(!empty($categories))
foreach ($categories as $category) : ?>
<option value="<?php echo $category->getId();?>" <?php
echo ($category->getId() == $product->getCategoryId())?'selected':'';?>>
<?php echo $category->getName(); ?>
</option>
<?php endforeach; ?>
</select>
<br>
<label>Code:</label>
<input type="input" name="code"
value="<?php echo $product->getCode();?>">
<br>
<label>Name:</label>
<input type="input" name="name"
value="<?php echo $product->getName();?>">
<br>
<label>List Price:</label>
<input type="input" name="price"
value="<?php echo $product->getPrice();?>">
<br>
<label>Discount Percent:</label>
<input type="text" name="discountPercent"
value="<?php echo $product->getDiscountPercent() ?>">
<br>
<label>Description:</label>
<div class="bootstrap43-iso">
<textarea class="summernote" name="description">
<?php echo $product->getDescription(); ?>
</textarea>
</div>
<br>
```

```

<label>&nbsp;</label>
<input type="submit" value="Update">
<br>
</form>
<p><a href="php echo Helper::get_url('admin/?c=listpro');?&gt;">View Product List</a></p>
<script>
$(document).ready(function() {
    //Thiết lập Editor Summernote
    $('.summernote').summernote({
        height: 240,           // set editor height
        minHeight: null,      // set minimum height of editor
        maxHeight: null,      // set maximum height of editor
        focus: false           // set focus to editable area after
    });
});
</script>

```

- **B6.** Ở phân hệ người dùng, cập nhật mã hiển thị 3 sản phẩm nổi bật gồm các thông tin như hình bên dưới.

+) Mở file **main.php** cập nhập mã để thiết lập mặc định cho trang hiển thị 3 sản phẩm nổi bật ở phân hệ người dùng.

```

<?php
$content = Helper::input_value('c');
if(!empty($content))
{
    switch($content)
    {
        case "listcatid":
            include_once("view/product/listByCatId.php");
            break;
        case "productid":
            include_once("view/product/productById.php");
            break;
    }
}

```

```

else
    include_once("view/product/featuredProducts.php");
?>

```

+) Mở file **home.php** thêm mã cho các liên kết đến trang Home, Admin.

```

<?php include_once('layout/header.php')?>

<main>
    <aside>
        <!-- display a list of links -->
        <h2>Links</h2>
        <ul>
            <li>
                <a href="<?php echo Helper::get_url('.');?>">Home</a>
            </li>
            <li>
                <a href="<?php echo Helper::get_url('/admin');?>">Admin</a>
            </li>
        </ul>
        <!-- display a list of categories -->
        <?php include_once('layout/left.php')?>
    </aside>
    <section>
        <!-- display a list of products -->
        <?php include_once('layout/main.php')?>
    </section>
</main>
<?php include_once('layout/footer.php') ?>

```

+) Tạo file **view\product\featuredProducts.php** và viết mã để hiển thị thông tin 3 sản phẩm nổi bật.

```

<?php
    // Set the featured product IDs in an array
    $proids = array(1, 3, 5);
    // Get an array of featured products from the database
    $products = array();
    foreach($proids as $proid)

```

```
{  
    $product = ProductDB::getProductById($proid);  
    // add product to array  
    $products[] = $product;  
}  
?  
<!-- Display the home page -->  
<h1><?php echo "Featured products"; ?></h1>  
<nav>  
<table style="border:0px solid white">  
    <?php  
    if(!empty($products))  
        foreach ($products as $product) : ?>  
        <tr style="border:0px solid white">  
            <td style="border:0px solid white">  
                  
            </td>  
            <td style="border:0px solid white">  
                <a href="?c=productid&proid=<?php echo $product->getID(); ?>">  
                    <?php echo $product->getName(); ?> <br>  
                </a>  
                <b>Your Price:</b> $<?php echo $product->getDiscountPrice(); ?>  
                <?php  
                    $description = $product->getDescription();  
                    $i = strpos($description, "</div>");  
                    $description = substr($description, 0,$i);  
                    echo "<p>$description</p>";  
                ?>  
            </td>  
        </tr>  
    <?php endforeach; ?>  
</table>  
</nav>
```

+) Mở file **view\product\productById.php** bổ sung thêm mã để hiển thị thêm thông tin về mô tả sản phẩm (**description**) cho từng sản phẩm khi người dùng kích chọn tên sản phẩm.

```
<?php
$proid = Helper::input_value('proid');
if(!empty($proid))
{
    $product = ProductDB::getProductById($proid);
}
?>
<h1><?php echo $product->getName(); ?></h1>
<div id="left_column">
    <p>
        
    </p>
</div>
<div id="right_column">
    <p><b>List Price:</b> $<?php echo $product->getPriceFormatted(); ?></p>
    <p><b>Discount:</b> <?php echo $product->getDiscountPercent(); ?>%</p>
    <p><b>Your Price:</b> $<?php echo $product->getDiscountPrice(); ?>
        (You save $<?php echo $product->getDiscountAmount(); ?>)</p>
<form action="<?php echo Helper::get_url('?v=cart&a=list'); ?>\" method="post">
    <input type="hidden" name="action" value="add" />
    <input type="hidden" name="proid" value="<?php echo $product->getID(); ?>" />
    <b>Quantity:</b>
    <input type="text" name="quantity" value="1" size="2" />
    <input type="submit" value="Add to Cart" />
</form>
<h2><?php echo "Description"; ?></h2>
<?php echo $product->getDescription(); ?>
</div>
```