

Of course. We've reached the final practical! **Practical 15** is the culmination of all your work. It's about demonstrating that all the individual modules you've built (frontend, backend, database, sessions) work together as a single, cohesive, and fully functional application.

Here is a guide on what to write in your practical file for this final step.

---

## Practical 15: Integrate All Modules into a Single Deployable Project

**Aim:** To integrate all frontend and backend modules into a single, secure, and fully functional e-commerce web application (ByteBazaar), demonstrating end-to-end functionality from user registration to order placement.

### 1. Key Questions & Analysis

#### 1.1. Are all pages properly linked and navigable?

Yes. The entire website is fully navigable.

- **Frontend Navigation:** A consistent navigation bar is present on all pages, allowing users to move seamlessly between the Home, Categories, Products, Wishlist, and Cart pages. All links and buttons, such as "View All Products" and "Proceed to Checkout," direct the user to the correct page.
- **Dynamic Links:** Product cards and category cards are dynamically generated with correct links to their respective detail pages (e.g., `product-details.html?id=...`), ensuring that all programmatically created content is correctly linked.
- **Authentication Flow:** The navigation dynamically changes based on login status. The "Account" link correctly directs to a "Profile" page (`profile.html`) when a user is logged in and provides "Login/Register" options when they are not. This is managed by `js/script.js` which calls the `check_login.php` endpoint.

#### 1.2. Are sessions and DB working end-to-end?

Yes. The session management and database are fully integrated and work from start to finish.

- **User Lifecycle:** A user can register (`register.php`), have their data stored in the users table, log in (`login.php`), have their session initiated, browse the site while being recognized as logged in (`check_login.php`), view their personal data on a protected profile page (`profile.html`), and log out (`logout.php`), which correctly terminates the

session.

- **Data Flow:** Products, categories, and sellers are dynamically fetched from the database to populate all relevant pages (get\_products.php, get\_categories.php).
- **Transactional Integrity:** The checkout process (process\_order.php) demonstrates a complete end-to-end database transaction. It verifies the user's session, reads product and seller data, and writes new records to the orders table, all within a secure transaction.

### 1.3. Are validations and security features integrated?

Yes. Security and validation are integrated throughout the application stack.

- **Frontend Validation:** All forms (Register, Login, Contact) have robust client-side validation using JavaScript to provide immediate user feedback.
- **Backend Validation:** All data submitted to the backend is re-validated on the server (e.g., in register.php) to protect against bypassed client-side scripts.
- **Security:** Core security practices are implemented, including password hashing with password\_hash() and password\_verify(), and the use of prepared statements in all database queries to prevent SQL injection.
- **Access Control:** The Admin Dashboard and Seller Dashboard are protected, with server-side checks to ensure only users with the correct role can access them.

## 2. Full Demo + Documentation (Post-Laboratory Work)

To provide a full demonstration of the integrated project, you should showcase a complete user journey with screenshots.

### Test Case 1: New User Registration & Login

- **Step 1:** [Screenshot of the register.html page filled with new user details.]
- **Step 2:** [Screenshot of the homepage after successful registration and login, with the navigation bar showing a "Profile" link.]

### Test Case 2: Browsing and Adding to Cart

- **Step 1:** [Screenshot of the products.html page showing products loaded from the database.]
- **Step 2:** [Screenshot showing a product being added to the cart, with the success notification visible.]
- **Step 3:** [Screenshot of the cart.html page showing the added item.]

### Test Case 3: Order Placement & Verification

- **Step 1:** [Screenshot of the order-confirmation.html page after a successful checkout.]
- **Step 2:** [Screenshot from phpMyAdmin of the orders table, highlighting the new row created for the order.]

#### **Test Case 4: Viewing Orders in Profile**

- **Step 1:** [Screenshot of the profile.html page, showing the "My Orders" tab.]
- **Step 2:** [Screenshot showing the list of orders for the logged-in user, fetched dynamically from the database.]

#### **Test Case 5: Admin Dashboard Access Control**

- **Step 1:** [Screenshot of the admin-login.html page.]
- **Step 2:** [Screenshot of the admin-dashboard.html after a successful admin login, showing the stats and management options.]

By documenting this complete, end-to-end flow, you have successfully demonstrated the full integration of all modules and have a complete, secure, and deployable web application, fulfilling the final practical. Congratulations on completing the project!