

# Intern Software Engineer - Task Sheet (CodeIgniter 3 & MySQL)

## Objective:

Evaluate the intern's understanding of **CodeIgniter 3 (PHP framework)** and **MySQL** by completing the following tasks. The intern should demonstrate proficiency in MVC architecture, database operations, form validation, and basic security practices.

## Task 1: Environment Setup & Basic Configuration (1 hour)

### Requirements:

- Set up a fresh **CodeIgniter 3** project.
- Configure application/config/database.php for MySQL connection.
- Create a MySQL database named intern\_eval\_db.

### Expected Deliverables:

- A working CodeIgniter 3 installation.
- A configured database.php file with correct MySQL settings.
- A MySQL database ready for use.

## Task 2: Create a Simple CRUD Application (3-4 hours)

### Requirements:

- Create a "**Books**" module with:
  - **Model:** Book\_model.php (with get\_books(), insert\_book(), update\_book(), delete\_book() methods).
  - **Controller:** Books.php (with index(), add(), edit(), delete() methods).
  - **Views:**
    - books\_list.php (Display all books in a table with edit/delete options).
    - book\_form.php (Add/Edit book form).
- Database table books structure:

```
sql
```

```
CREATE TABLE `books` (
```

```
`id` INT AUTO_INCREMENT PRIMARY KEY,
`title` VARCHAR(100) NOT NULL,
`author` VARCHAR(100) NOT NULL,
`published_date` DATE,
`isbn` VARCHAR(20),
`created_at` TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

- Implement **form validation** (using CodeIgniter's form\_validation library).
- Add **pagination** to the book listing.

### Expected Deliverables:

- A fully functional **CRUD** for books.
- Proper server-side validation.
- Pagination in the listing page.

## Task 3: Implement User Authentication (2-3 hours)

### Requirements:

- Create a **User** model (User\_model.php) with:
  - get\_user(), insert\_user(), verify\_login() methods.
- Database table users structure:

sql

```
CREATE TABLE `users` (
  `id` INT AUTO_INCREMENT PRIMARY KEY,
  `username` VARCHAR(50) NOT NULL UNIQUE,
  `email` VARCHAR(100) NOT NULL UNIQUE,
  `password` VARCHAR(255) NOT NULL, -- Store hashed passwords
  `created_at` TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

- Implement:
  - **Registration** (with password hashing using password\_hash()).
  - **Login** (with session management).
  - **Logout** functionality.
- Secure pages so that only logged-in users can access the **Books** module.

### Expected Deliverables:

- A working **login/registration** system.
- Session-based access control.
- Password hashing for security.

## Evaluation Criteria:

- ✓ **Code Structure** (MVC separation, clean code)
- ✓ **Functionality** (CRUD, validation, security)
- ✓ **Database Skills** (Proper queries, table structure)
- ✓ **Error Handling** (Form validation, SQL errors)

## Notes for the Intern:

- Use **CodeIgniter 3 Documentation** for reference.
- Follow best practices (e.g., **prepared statements** for SQL queries).
- Comment your code where necessary.

**Time Given:** ~6-8 hours.