

Module 6: Deployment & Final Project (Classes 22–24)

Module Duration: 6 Hours (3 Classes × 2 Hours)

Software & Tools: Visual Studio Code, Git, GitHub, XAMPP, Web Browser, FTP Client (Optional)

Module Learning Objectives

By the end of this module, students will be able to:

- Understand version control using Git and GitHub.
 - Deploy websites to a live web hosting server.
 - Optimize websites for performance and basic SEO.
 - Build and present a complete web development project.
 - Create a professional portfolio for employment or freelancing.
 - Understand career opportunities in web design and development.
-

Class 22 (2 Hours)

Git, GitHub & Website Deployment

Learning Outcomes

After completing this class, students will be able to:

- Understand version control.
 - Create Git repositories.
 - Upload projects to GitHub.
 - Understand the basics of domain names and web hosting.
 - Deploy a website to a live server.
-

22.1 What is Version Control?

Version control is a system that records changes to project files over time, allowing developers to track history, collaborate, and restore previous versions when needed.

Benefits

- Tracks project history
 - Supports teamwork
 - Prevents accidental data loss
 - Makes collaboration easier
 - Enables rollback to previous versions
-

22.2 Introduction to Git

Git is a distributed version control system.

Common Git Commands

```
git init
```

Initialize a new Git repository.

```
git status
```

View the current status of the repository.

```
git add .
```

Stage all changes.

```
git commit -m "Initial Commit"
```

Save changes with a commit message.

```
git log
```

View commit history.

22.3 Introduction to GitHub

GitHub is a cloud-based platform for storing Git repositories and collaborating on software projects.

Uses

- Backup source code

- Portfolio showcase
 - Team collaboration
 - Version management
-

22.4 Uploading a Project to GitHub

Steps:

1. Create a GitHub account.
 2. Create a new repository.
 3. Initialize Git in your project folder.
 4. Commit your files.
 5. Connect the local repository to GitHub.
 6. Push your project to GitHub.
-

22.5 Domain & Hosting Concepts

Domain Name

A unique address used to access a website.

Examples:

- www.example.com
 - www.myportfolio.com
-

Web Hosting

A service that stores website files and makes them available on the Internet.

Types of Hosting

- Shared Hosting
 - VPS Hosting
 - Cloud Hosting
 - Dedicated Server
-

22.6 Website Deployment Methods

- Upload via File Manager
 - Upload using FTP
 - Git-based deployment
 - cPanel Deployment
-

Practical Exercise

Students will:

- Initialize a Git repository.
 - Commit project files.
 - Upload the project to GitHub.
 - Practice deploying a static website.
-

Assignment

Upload the portfolio website to GitHub and document the deployment steps.

Class 23 (2 Hours)

Website Optimization & Basic SEO

Learning Outcomes

Students will be able to:

- Improve website performance.
 - Apply basic Search Engine Optimization (SEO) techniques.
 - Follow web security best practices.
 - Test websites across different devices and browsers.
-

23.1 Website Performance Optimization

Best practices:

- Optimize images
 - Compress CSS and JavaScript
 - Minify HTML, CSS, and JS
 - Reduce HTTP requests
 - Enable browser caching
 - Remove unused code
-

23.2 Responsive Testing

Test the website on:

- Desktop
- Laptop
- Tablet
- Mobile Phone

Browser Developer Tools can be used to simulate different screen sizes.

23.3 Basic SEO

On-Page SEO

- Unique page titles
 - Meta descriptions
 - Heading hierarchy (H1–H6)
 - Meaningful URLs
 - Alt text for images
 - Internal links
-

23.4 Accessibility Basics

Good accessibility practices include:

- Descriptive link text
- Keyboard navigation support
- Sufficient color contrast
- Form labels

- Alt text for images
-

23.5 Website Security Basics

Recommendations:

- Validate user input
 - Escape output where appropriate
 - Use HTTPS
 - Keep software updated
 - Protect sensitive information
 - Use strong passwords
-

Practical Exercise

Optimize the course project by:

- Compressing images
 - Adding meta tags
 - Checking responsiveness
 - Improving accessibility
 - Testing in multiple browsers
-

Assignment

Prepare an SEO checklist for the final project and apply improvements.

Class 24 (2 Hours)

Final Project Presentation & Career Development

Learning Outcomes

Students will be able to:

- Present a complete web development project.
- Explain project architecture and design decisions.
- Build a professional portfolio.
- Understand freelancing and employment opportunities.
- Prepare for interviews and client meetings.

24.1 Final Project Requirements

Students will develop a **Responsive Dynamic Website** that demonstrates the skills learned throughout the course.

Required Features

- Responsive Navigation Bar
- Home Page
- About Page
- Services Page
- Contact Form
- Responsive Layout
- Bootstrap Components
- JavaScript Interactivity
- PHP Backend
- MySQL Database
- Login System
- CRUD Functionality

24.2 Project Documentation

Each student should include:

- Project Title
- Project Objectives
- Technologies Used
- Database Structure
- Features
- Screenshots
- Installation Guide
- Future Improvements

24.3 Portfolio Development

A professional portfolio should include:

- About Me
- Technical Skills
- Projects
- GitHub Profile
- Resume
- Contact Information

24.4 Career Opportunities

Possible career paths include:

- Web Designer
- Front-End Developer
- Back-End Developer
- Full-Stack Developer
- WordPress Developer
- PHP Developer
- UI Developer
- Freelance Web Developer
- Technical Support Engineer

24.5 Freelancing Basics

Popular platforms include:

- Fiverr
- Upwork
- Freelancer
- PeoplePerHour

Topics covered:

- Creating a professional profile
- Writing project proposals
- Communicating with clients

- Managing deadlines
 - Building long-term client relationships
-

Practical Exercise

Students will:

- Present their final website.
 - Demonstrate all major features.
 - Answer questions about the project.
 - Receive instructor and peer feedback.
-

Final Course Project

Students will develop a **Complete Responsive Student Management System** or **Business Website** with the following features:

Frontend

- Responsive Homepage
- About Page
- Services Page
- Contact Form
- Bootstrap Layout
- JavaScript Validation

Backend

- User Login
- Dashboard
- Student or Product Management
- CRUD Operations
- Session Management

Database

- MySQL Database
- Multiple Tables
- Relationships
- Sample Data

Additional Features

- Responsive Design
 - SEO-Friendly Structure
 - Form Validation
 - Error Handling
 - Professional UI
 - GitHub Repository
 - Deployment to a Hosting Environment (where available)
-

Module Assessment

Assessment	Marks
Git & Deployment Quiz	10
Practical Exercises	20
Assignments	20
Final Website Project	40
Presentation & Viva	10
Total	100

Learning Outcomes

After completing **Module 6: Deployment & Final Project**, students will be able to:

- Use Git and GitHub to manage source code and maintain version history.
- Deploy static and dynamic websites using common hosting methods.
- Optimize websites for performance, responsiveness, accessibility, and basic SEO.
- Present and document a complete web application professionally.
- Build a portfolio suitable for job applications or freelance work.
- Demonstrate end-to-end web development skills, from planning and coding to deployment and project presentation.