**Bytexl’s Guided Project - Dynamic Website**

Students’ User Guide

**Build Job-Relevant Skills by Developing Real-World Solutions**

Bytexl educators have created specialized guided projects designed to help you practice in-demand programming languages and software frameworks like Python, Django, JavaScript, and SQL. The Dynamic Website project is focused on building a functional and interactive web application, covering both front-end and back-end development.

In about 2 hours, you’ll be guided through a practical, hands-on experience on the Bytexl app that helps you build job-relevant skills and gain real-world project experience with the help of a Bytexl educator.

*Instructions for Students*

Project-Based Learning Course Overview

**About the Project:**

In this project, you will learn how to create a Dynamic Website using Django. This includes setting up a server-side environment, designing a user interface, handling authentication, and managing content dynamically. The final outcome will be a fully functional website that can be adapted for multiple uses, like blogs, portfolios, and e-commerce platforms.

Prerequisites:

- Basic understanding of HTML, CSS, and JavaScript

- Familiarity with Python fundamentals

- Basic knowledge of database management

**What Will You Learn?**

- Setting up a Django environment

- Designing a responsive user interface

- Managing data and CRUD operations in Django

- User authentication and role management

- Integrating front-end and back-end components

**Skills You Will Practice:**

- Full-stack development with Django

- Web application architecture and design

- Data management with an ORM (Django’s Object-Relational Mapping)

- User experience (UX) design for interactive web applications

**How to Execute?**

Your Learning Platform: Practice new skills by completing job-related tasks.

- No downloads or installation required—access all tools on Nimbus through Bytexl's platform.

- Practice on your desktop or laptop. This project cannot be developed on mobile devices.

Use Nimbus on Bytexl’s Platform

In this Guided Project, You Will:

- Practice job-relevant skills in 20 hours.

- Receive detailed, step-by-step instructions from your educator.

- Gain hands-on experience solving real-world use cases.

- Build confidence by completing the project using Nimbus, the latest tools, and technologies.

Learn Step-by-Step

Your educator will guide you through completing the Dynamic Website project in 20 hours.

Structure for Educators

How to Create the Use Cases for Students to Practice

Instructions:

Welcome to the "Dynamic Website" Project. This guided project will take approximately 20 hours to complete.

Course Objectives:

In this project, students will focus on:

1. Setting up the Django environment.

2. Designing and implementing a dynamic, responsive web application.

3. Implementing user authentication and access control.

4. Creating and managing content through CRUD operations.

5. Deploying a fully functional web application on Nimbus.

By the end of this project, students will be able to deploy their projects on the Nimbus Platform using tools such as Django, HTML, CSS, JavaScript, and SQLite.

**Course Structure**

**This Course Is Divided Into 3 Parts**

1. Course Overview: An introductory reading material covering project setup and objectives.

2. Project Structure: Hands-on tasks and exercises on building the dynamic website.

**Project Structure**

The hands-on project on the Dynamic Website is divided into the following tasks:

Task 1: Setting Up the Environment

- Set up a Django project and configure basic settings.

- Initialize the database and create a basic web application structure.

Task 2: Designing the User Interface

- Create the layout using HTML and Bootstrap for responsiveness.

- Implement a navigation bar and basic page templates for easy navigation.

Task 3: User Authentication

- Implement user registration, login, and logout functionality.

- Set up role-based permissions (e.g., users vs. administrators).

Task 4: Implementing Content Management (CRUD Operations)

- Create models for content (e.g., blog posts or products).

- Develop views to create, update, delete, and display content.

Task 5: Adding Interactivity with JavaScript

- Add interactive elements (like search functionality, comments, or likes).

- Implement JavaScript for enhancing user experience.

Task 6: Deployment on Nimbus

- Deploy the project on Nimbus and ensure it is accessible online.

- Verify that all functionalities work as expected in the live environment.

**Meet Your Educator**

Kuldeep - With extensive experience in full-stack development, Kuldeep will guide you through each task, providing insights and support to help you successfully complete this project.

**About the Nimbus Platform and Tools Required**

Nimbus is a cloud-based platform where students can build, test, and deploy their projects without installing any software locally. All required tools (Django, database, and other libraries) are available on the Nimbus platform.

Expected Outcomes

By completing this project, students should be able to:

- Set up a Django web application

- Create a responsive, dynamic user interface

- Implement user authentication and CRUD functionality

- Deploy a fully operational web application on Nimbus

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Quiz Questions

1. What is the primary function of Django in this project?

- a) Front-end design

- b) Database management

- c) Web framework for both front-end and back-end

- d) None of the above

2. Which of the following is used for user authentication in Django?

- a) HTTP cookies

- b) Django's built-in authentication system

- c) JavaScript libraries

- d) None of the above

3. What does CRUD stand for in web development?

- a) Create, Read, Update, Delete

- b) Connect, Read, Update, Delete

- c) Create, Retrieve, Update, Display

- d) Create, Retrieve, Update, Delete

4. Which tool helps make a Django website responsive?

- a) Bootstrap

- b) Python

- c) SQLite

- d) Nimbus

5. What is the purpose of deploying the project on Nimbus?

- a) To make it accessible from anywhere

- b) To test it on different devices

- c) To avoid local installation requirements

- d) All of the above

Earn a Certificate

After completing the Dynamic Website hands-on project:

1. Upload your code for evaluation.

2. Complete the Quiz to assess your knowledge.

3. You will earn a certificate if you score 80% or more on the quiz.