**Bytexl’s guided projects**

**Students’ User Guide**

Build job relevant skill sets by developing solutions to practical use cases

Bytexl’s educators have created specialised guided projects so you can practice current technology languages / softwares such as Python, Java, Nodejs, …..

In about <2 hours>, you can build a project enhancing your job relevant skills as your educator guides through with a specially created hands-on experience available on Bytexl’s app.

INSTRUCTIONS FOR STUDENTS:

Project based learning course overview:

About the project:

You will create a Node.js and Express application that communicates with a MongoDB database as part of this guided project. Building an API to handle subscribers, their data, and the channels they subscribe to is the main goal of the project. You will practice skills necessary for backend programming in practical apps by finishing this project.

Prerequisites:

1. A basic understanding of Node.js and JavaScript.  
2 Knowledge of the Express.js framework for web application programming.  
3. Knowledge of MongoDB, or readiness to pick it up as part of the project.  
4.access to Nimbus on Bytexl for the practical implementation of the project.

What will you learn?:

· Learn how to create **RESTful APIs** using **Node.js** and **Express**.

· Work with **MongoDB** for data storage and retrieval.

· Understand how to implement CRUD (Create, Read, Update, Delete) operations.

· Learn error handling and validation in API development.

Skills you will practice:

· **Backend Development**: Creating and managing APIs using **Express.js**.

· **Database Management**: Using **MongoDB** to store and retrieve data.

· **API Documentation**: Structuring and testing your API responses.

· **Error Handling and Debugging**: Identifying and fixing errors in your application.

How to execute? Your learning platform:

Practice new skills by completing job-related tasks

No downloads or installation required. Use your Nimbus access to access all the tools.

Practice on your desktop or laptop. This cannot be developed on your mobile phones.

Use Nimbus on Bytexl’s platform:

Learn, practice and enhance job relevant skills in just 20 hours

* + - * + Receive detailed instructions from instructors
        + Gain hands-on experience solving real-world case studies
        + Enhance your confidence with solutions developed on Nimbus using the latest tools and technologies

Learn step-by-step:

In this guided project, you will find your educator giving you a walk-through to complete your project in 35 hours.

Structure for educators:

How to create the use cases for students to practice?

Instructions:

This guided project will take about **[35 hours]** to complete. The project focuses on backend development using **Node.js**, **Express**, and **MongoDB**. Here are the course objectives and structure:

Welcome to UTube Subscribers Back-end. This is a guided project which will take about 35 hours to complete.

Here are the course objectives and structure:

Course Objectives:

In this project we will focus on the following objectives:

· Understand how to build RESTful APIs in **Node.js**.

· Learn how to interact with a **MongoDB** database to store and retrieve data.

· Implement data validation and error handling in APIs.

· Deploy their solution on the **Nimbus Platform**.

By the end of this project you will be able to using Node.js, Express.js……………. You will deploy the project on the Nimbus Platform using **vercel Mongodb** …………… tools / platforms

Course Structure:

This course is divided into 3 parts:

Course overview: This is the introductory reading material.

Understanding the technologies used (Node.js, Express, MongoDB).

Project structure:

The hands on project on <**UTube Backend Subscribers**>  is divided into following tasks:

Task 1: Setting up the project environment and installing dependencies

Task 2: Building the GET /subscribers route to fetch all subscribers.

Task 3: Implementing the GET /subscribers/:id route to fetch a subscriber by ID.

Task 4: Adding functionality to GET /subscribers/names to retrieve only the subscriber names.

…

Meet your educator: Your educator for this course is **[Neetesh Parashar]**, who will guide you through each step and help you troubleshoot common issues.

About the Nimbus Platform and the tools required for this project:

Expected Outcomes: By the end of this project, students will have gained hands-on experience in building and deploying a **RESTful API** using **Node.js** and **Express.js**, while interacting with a **MongoDB** database. They will develop essential backend skills such as performing CRUD operations, handling errors, and validating data. Students will learn how to structure API responses, implement routing and middleware, and troubleshoot common issues. Additionally, they will gain experience deploying their application on a cloud platform, enhancing their job-ready skills for roles like **Backend Developer** and **Full Stack Developer**, with a solid understanding of real-world backend development concepts.

Quiz Questions :

Include 5 MCQs with answers highlighted

Earn a Certificate: After you have completed the **UTube Subscriber Backend** hands-on project, you should

upload your code for it to be assessed

complete the Quiz to assess your knowledge.

You will earn a certificate if you score 80 % or more.