



**Coding**  
Bootcamps



# **Intro to Node.js, Express.js and MongoDB**

By Kaustubh Ghadge from [Coding Bootcamps](#)

# Hello!

**I am Kaustubh Ghadge  
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# Session Outline

1. What is a user authentication system?
2. Building user authentication system using Node.js, Express.js and MySQL

# **User Authentication System**

**1.**

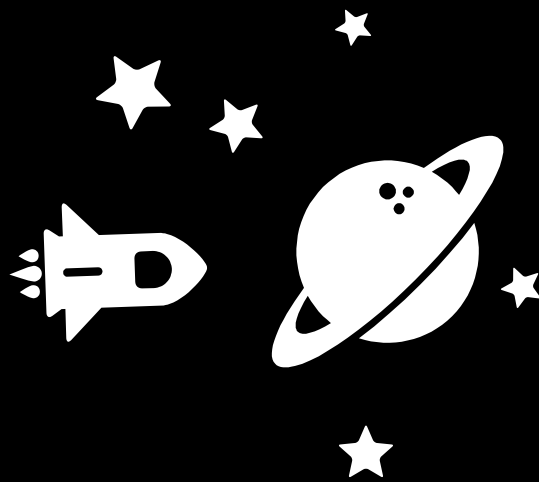
# User Authentication System

- In order to gain access, users must prove to the website that they are who they say they are. The ID and key are enough to confirm the user's identity, which will allow the system to authorize the user.
- Most users are familiar with passwords. In fact, passwords have been the tried-and-true method for user authentication since the beginning of the internet.

# User Authentication System

The user authentication process with passwords, generally, looks like this:

- When you land on the page, you'll be asked to enter your username and password.
- Your credentials are sent to the website's server and compared with the information they have on file.
- When a match is found, you'll be able to enter your account.



# PROJECT

Building User Authentication System  
using Node.js and SQL

# Requirements

You must have all the necessary tools installed in previous session. However, if you haven't here are tools we will be using -

- Install Node.js by following the appropriate guidelines for your local machine given [here](#).
- You may use [Node Version Manager](#) to install multiple versions of Node.js on your local machine.
- Install [MySQL Server](#)
- Code Editor like Visual Studio Code or Sublime Text



# Other SQL Databases

The steps followed in this project can be applied to other SQL-based databases like PostgreSQL, SQLite, Microsoft SQL Server, MariaDB, Apache CouchDB, and SAP HANA.

# SQL Training

We offer the below courses for database design and SQL coding:

- [Introduction to Database Design](#)
- [Learn SQL Programming by Examples](#)

# JavaScript Training

You should take the below course first if you are new to JS:

- [Intro to JavaScript](#)

# **Project Scope**

Create a user authentication system that allows user to signup and login.

# Project Source Files

Link -

<https://github.com/kaustubhghadge/coding-bootcamp/tree/master/node-mysql-auth>

# Project Overview

1. Project Initialization
2. Install Application Dependencies
3. Establish Connection with MySQL server
4. Build REST API Endpoint for Signup
5. Password Encryption
6. Build REST API Endpoint Login

# Project Initialization

- Create an application folder
- Create **package.json** file using **npm**

# Install Application Dependencies

- Create main application file - **app.js**
- Install following application dependencies -
  - [Express.js](#) - A node.js framework
  - [MySQL Driver](#) - module to help our Node.js application communicate with MySQL Server.
  - Body-parser - This package will allow us to handle request bodies with Express.
  - bcrypt - It will allow us to encrypt password.



# Establish Connection with MySQL

- Create a connection with following MySQL details -
  - host, user, password, database
- Run the App again to see if there are any connection errors

# Signup Endpoint

We create this endpoint to allow users to signup using Email and Password

# Password Encryption using bcrypt

- bcrypt is a password hashing function designed by Niels Provos and David Mazières, based on the Blowfish cipher, and presented at USENIX in 1999
- <https://www.npmjs.com/package/bcrypt>

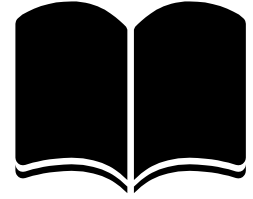
# Login Endpoint

We create this endpoint to allow users to signin using Email and Password

# Following best practices

- Use [POSTMAN](#) instead of curl
- Use environment variables to define -
  - Port
  - Connection URL
- Use [Swagger](#) to document your API

**RECAP**



# Resources

## Reading

- Multi-factor Authentication - [https://en.wikipedia.org/wiki/Multi-factor\\_authentication](https://en.wikipedia.org/wiki/Multi-factor_authentication)
- Auth0 - <https://auth0.com/>
- AWS Cognito - <https://aws.amazon.com/cognito/>

# More JavaScript Courses

- [Intermediate JS with jQuery, JSON and Ajax](#)
- [Intro to Angular.JS Framework](#)
- [Intro to React.JS Framework](#)
- [Vue.JS Framework](#)



# Thanks!

## Any questions?

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