

Beginning Node.js, Express, and MongoDB Development: A Comprehensive Guide for Beginners

Node.js, Express, and MongoDB are three of the most popular technologies for building web applications today. Node.js is a JavaScript runtime environment that allows you to run JavaScript code outside of a web browser. Express is a web framework for Node.js that makes it easy to build and maintain web applications. MongoDB is a NoSQL database that is popular for its flexibility and scalability.



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by Greg Lim

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In this guide, we will walk through the basics of Node.js, Express, and MongoDB. We will build a simple web application that uses these technologies to store and retrieve data from a database.

Prerequisites

Before you begin, you will need the following:

* A text editor * Node.js installed on your computer * MongoDB installed on your computer

Creating a New Node.js Project

To create a new Node.js project, open your text editor and create a new file called `app.js`. This file will contain the code for your web application.

In the `app.js` file, add the following code:

```
javascript const express = require('express'); const MongoClient = require('mongodb').MongoClient;
```

```
const app = express();
```

```
app.get('/', (req, res) => { res.send('Hello, world!'); });
```

```
app.listen(3000, () => { console.log('Server is listening on port 3000'); });
```

This code creates a new Express application and listens for requests on port 3000. When a request is made to the root URL (`/`), the application responds with the message "Hello, world!".

Connecting to MongoDB

Now that we have a basic Node.js application, we can connect to MongoDB. In the `app.js` file, add the following code:

```
javascript const MongoClient = require('mongodb').MongoClient;
```

```
const mongoClient = new MongoClient('mongodb://localhost:27017', {useNewUrlParser: true, useUnifiedTopology: true });
```

```
mongoClient.connect((err, client) => { if (err) throw err;

const db = client.db('mydb'); const collection = db.collection('mycollection');

collection.insertOne({ name: 'John Doe' }, (err, result) => { if (err) throw err;

console.log('Document inserted into MongoDB!');

client.close(); }); });
```

This code connects to MongoDB on the default port (27017) and authenticates using the `mydb` database. It then inserts a document into the `mycollection` collection.

Retrieving Data from MongoDB

Now that we have inserted a document into MongoDB, we can retrieve it. In the `app.js` file, add the following code:

```
javascript const mongoClient = new
MongoClient('mongodb://localhost:27017',{useNewUrlParser: true,
useUnifiedTopology: true });

mongoClient.connect((err, client) => { if (err) throw err;

const db = client.db('mydb'); const collection = db.collection('mycollection');

collection.findOne({ name: 'John Doe' }, (err, doc) => { if (err) throw err;

console.log(doc);
```

```
client.close(); }); });
```

This code retrieves the document that we inserted into MongoDB in the previous step. It uses the `findOne()` method to find a document based on a query. In this case, we are looking for a document where the `name` field is equal to "John Doe".

In this guide, we walked through the basics of Node.js, Express, and MongoDB. We created a simple web application that uses these technologies to store and retrieve data from a database. This guide is just a starting point, and there is much more that you can learn about these technologies.

Here are some resources that you can use to learn more:

* [Node.js documentation](https://nodejs.org/en/docs/) * [Express documentation](https://expressjs.com/en/guide/routing.html) * [MongoDB documentation](https://docs.mongodb.com/manual/)



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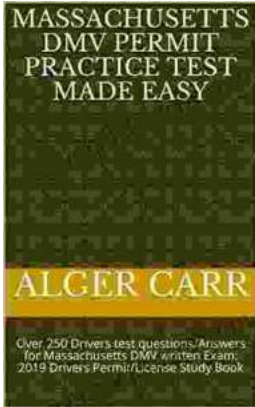
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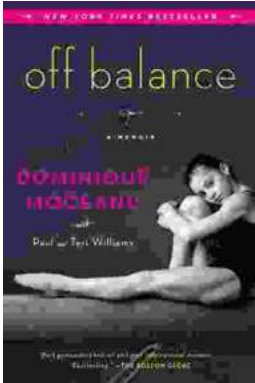
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