

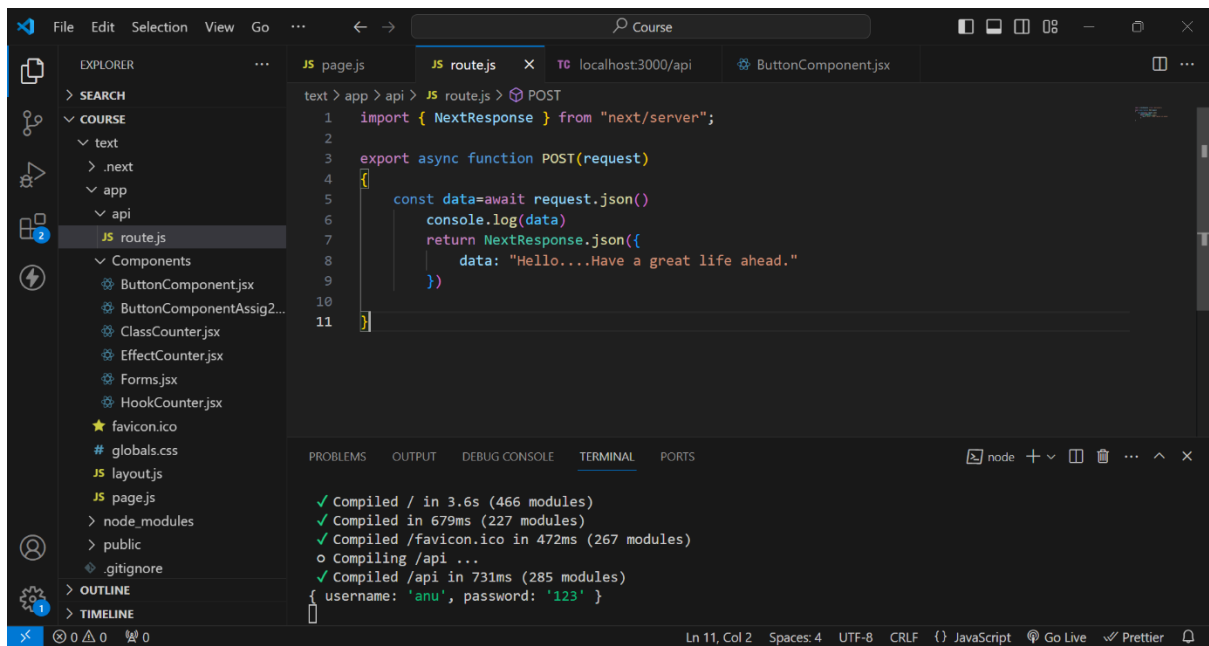
## A simple RESTFUL API using React.js, DataBase Creation, and Creating Index

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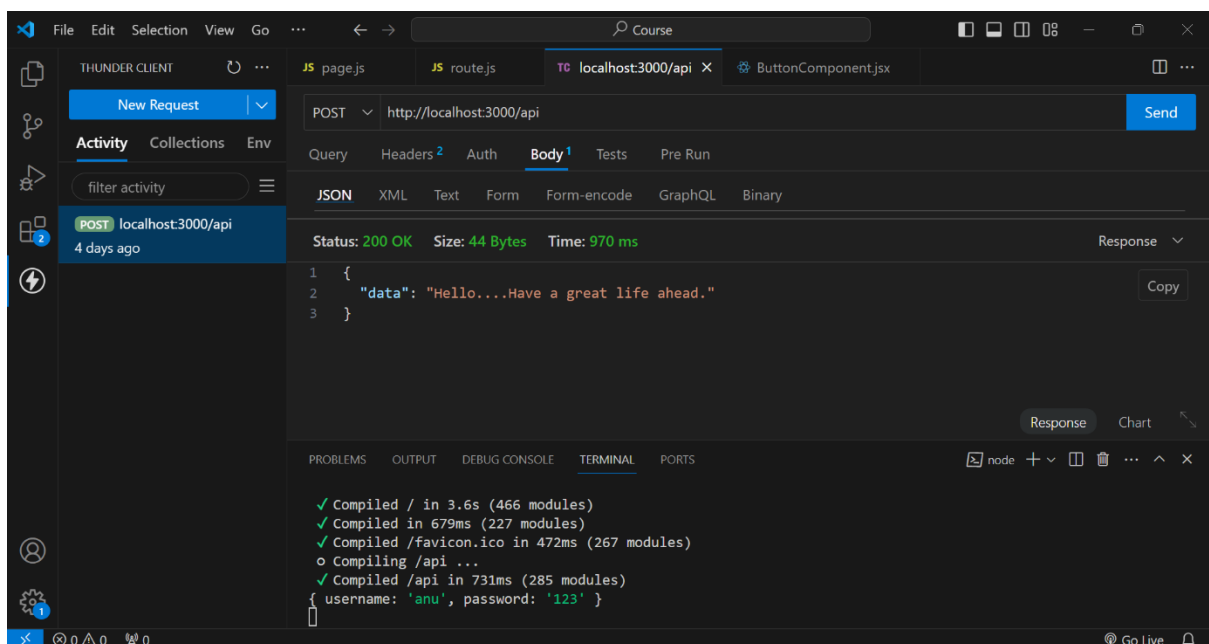
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### RestFul API code :



## Rest Output on ThunderClient



## DataBase Creation

1<sup>st</sup> we created a database named test

In that test we created a collection named Students

And finally by using ADD DATA , we added data of the students like rno, name, age.

The screenshot shows the MongoDB Compass interface for the 'test' database, specifically the 'Students' collection. The left sidebar lists databases: admin, config, local, and test. The 'test' database is selected, and the 'Students' collection is highlighted. The main area displays the 'test.Students' collection with 7 documents and 2 indexes. The 'Documents' tab is active, showing a table of student data. The table has columns: \_id (ObjectId), RNo (Int32), Name (String), and Age (Int32). The data is as follows:

	_id ObjectId	RNo Int32	Name String	Age Int32
1	ObjectId('65ebebfc359cf2...')	1	"ABC"	20
2	ObjectId('65ebec56d359cf2...')	2	"DEF"	19
3	ObjectId('65ebecd6d359cf2...')	3	"AHF"	20
4	ObjectId('65ebed18d359cf2...')	4	"DER"	22
5	ObjectId('65ebed48d359cf2...')	5	"UDE"	20
6	ObjectId('65ebed67d359cf2...')	6	"SPR"	18

## Indexing Creation

As rno is the unique attribute through which we identify a student uniquely. So, here I created an index based on Rno and assigned unique key to it.

The screenshot shows the MongoDB Compass interface for the 'test' database, specifically the 'Students' collection. The 'Indexes' tab is active, displaying a table of index information. The table has columns: Name and Definition, Type, Size, Usage, and Properties. The data is as follows:

Name and Definition	Type	Size	Usage	Properties
> RNo_1	REGULAR	36.9 KB	0 (since Sat Mar 09 2024)	UNIQUE
> _id_	REGULAR	36.9 KB	29 (since Sat Mar 09 2024)	UNIQUE

## Indexing usage

As we gave Rno as unique, If we try to insert a duplicate document that is existed it shows an error like..duplicate collection.

The screenshot shows the MongoDB Compass interface for the `test.Students` collection. The left sidebar displays the database structure with `test` selected. The main panel shows the `test.Students` collection with 7 documents and 2 indexes. The `Documents` tab is active, showing a table of documents. The table has columns: `_id` (ObjectId), `RNo` (Int32), `Name` (String), and `Age` (Int32). The documents are as follows:

	_id	RNo	Name	Age
3	ObjectId('65ebcd6d359cf2...')	3	"AHF"	20
4	ObjectId('65ebcd18d359cf2...')	4	"DER"	22
5	ObjectId('65ebcd48d359cf2...')	5	"UDE"	20
6	ObjectId('65ebcd67d359cf2...')	6	"SPR"	18
7	ObjectId('65ebcd2ad359cf2...')	6	No field	No field

An error message is displayed at the bottom of the table:

Plan executor error during findAndModify :: caused by :: E11000 duplicate key error coll...

Buttons for `CANCEL` and `UPDATE` are visible next to the error message.