

## Code in [notesController.js](#):

```
import Note from "../models/Note.js"

export async function getAllNotes(req, res) {
  try {
    // Note.find(), to get every single note
    const notes = await Note.find()
    // Send status, send notes as json
    res.status(200).json(notes)
  } catch (error) {
    // For debugging purpose
    console.error("Error in getAllNotes controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}

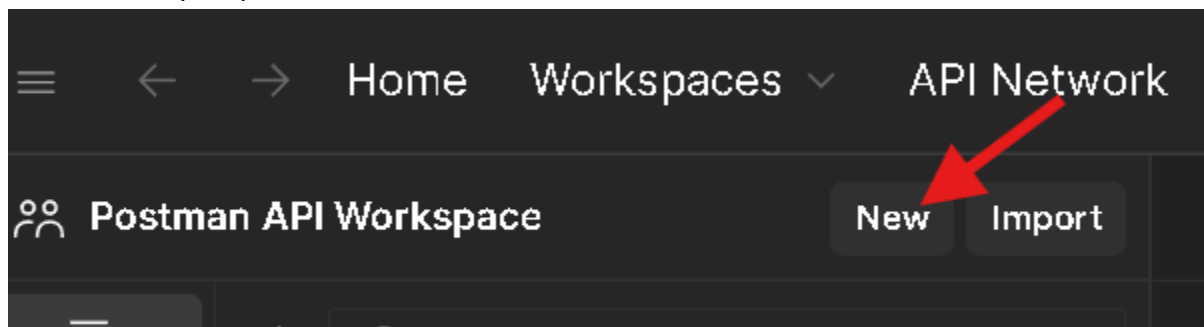
export function createNote(req, res) {
  // Gets data in form of json
  res.status(201).json({message: "Note created successfully!"})
}

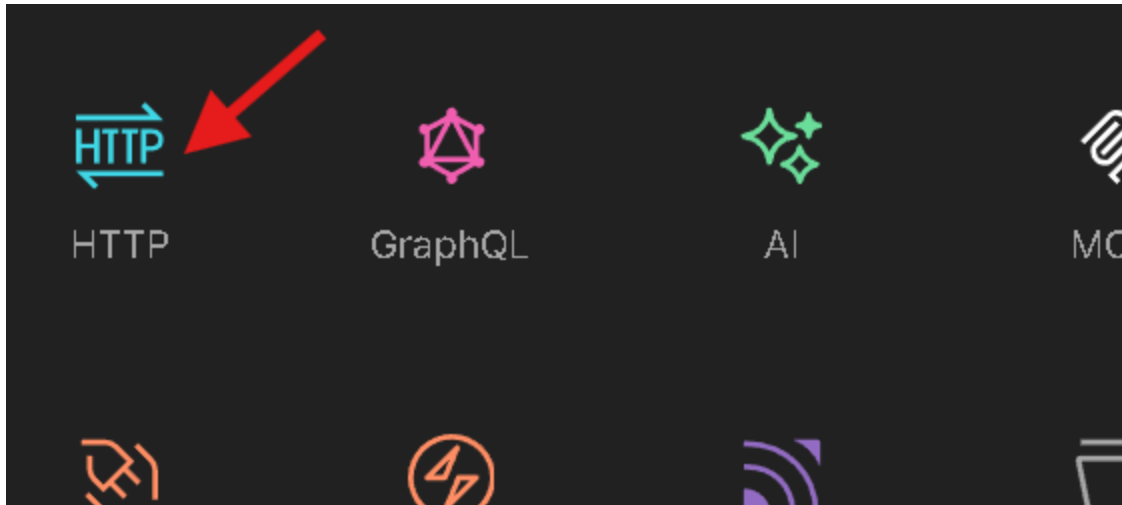
export function updateNote(req, res) {
  res.status(200).json({message: "Note updated successfully!"})
}

export function deleteNote(req, res) {
  res.status(200).json({message: "Note deleted successfully!"})
}
```

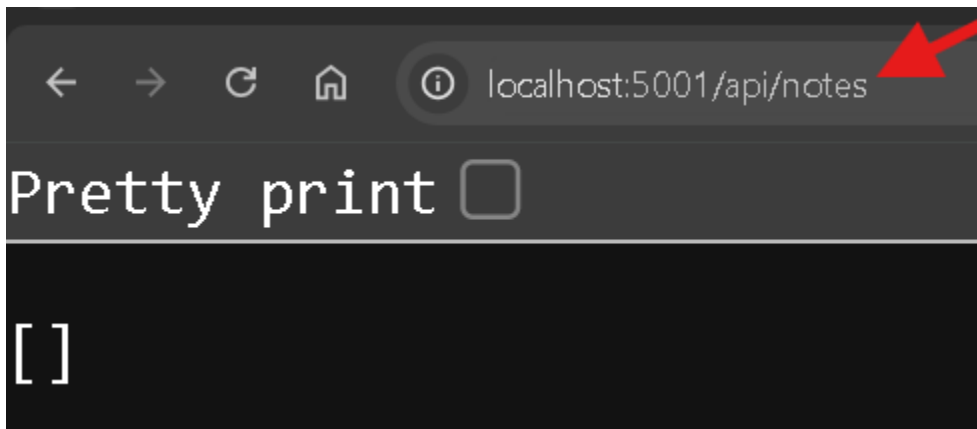
## Start using Postman for HTTP Requests:

To test the http request:

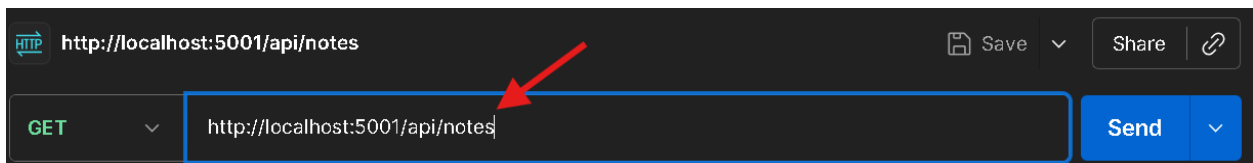




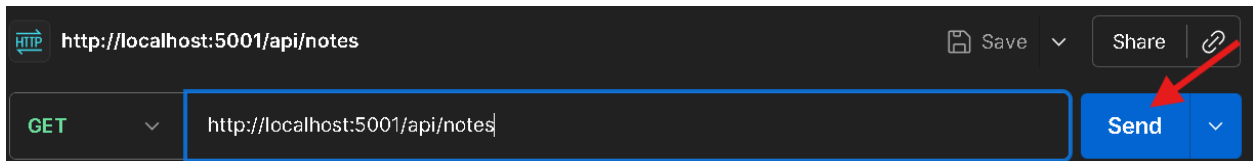
Copy the URL:



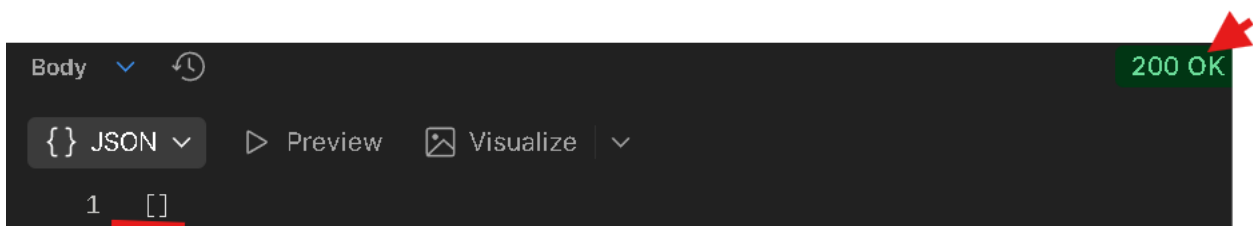
Paste it:



Send request:



Got response:

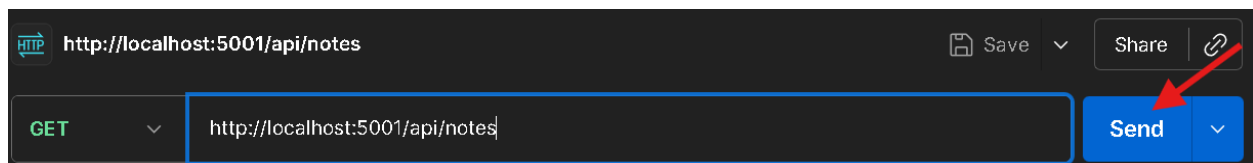


If the code breaks at try block:

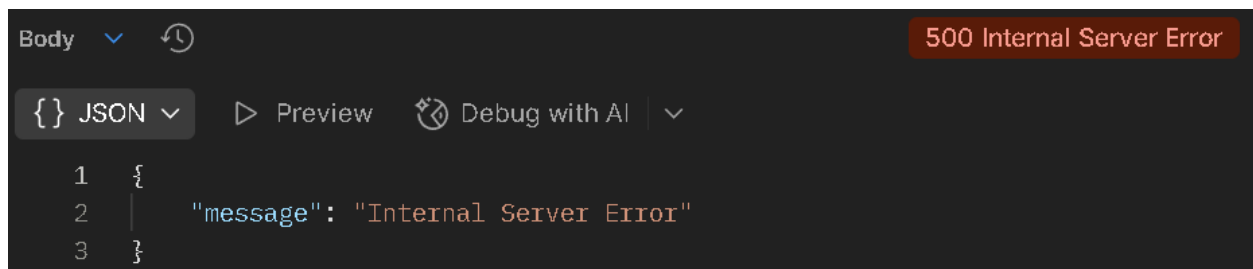
Changed from find to findx

```
try {  
    // Note.find(), to get every single  
    const notes = await Note.findx()  
    // Send status, send notes as json  
    res.status(200).json(notes)
```

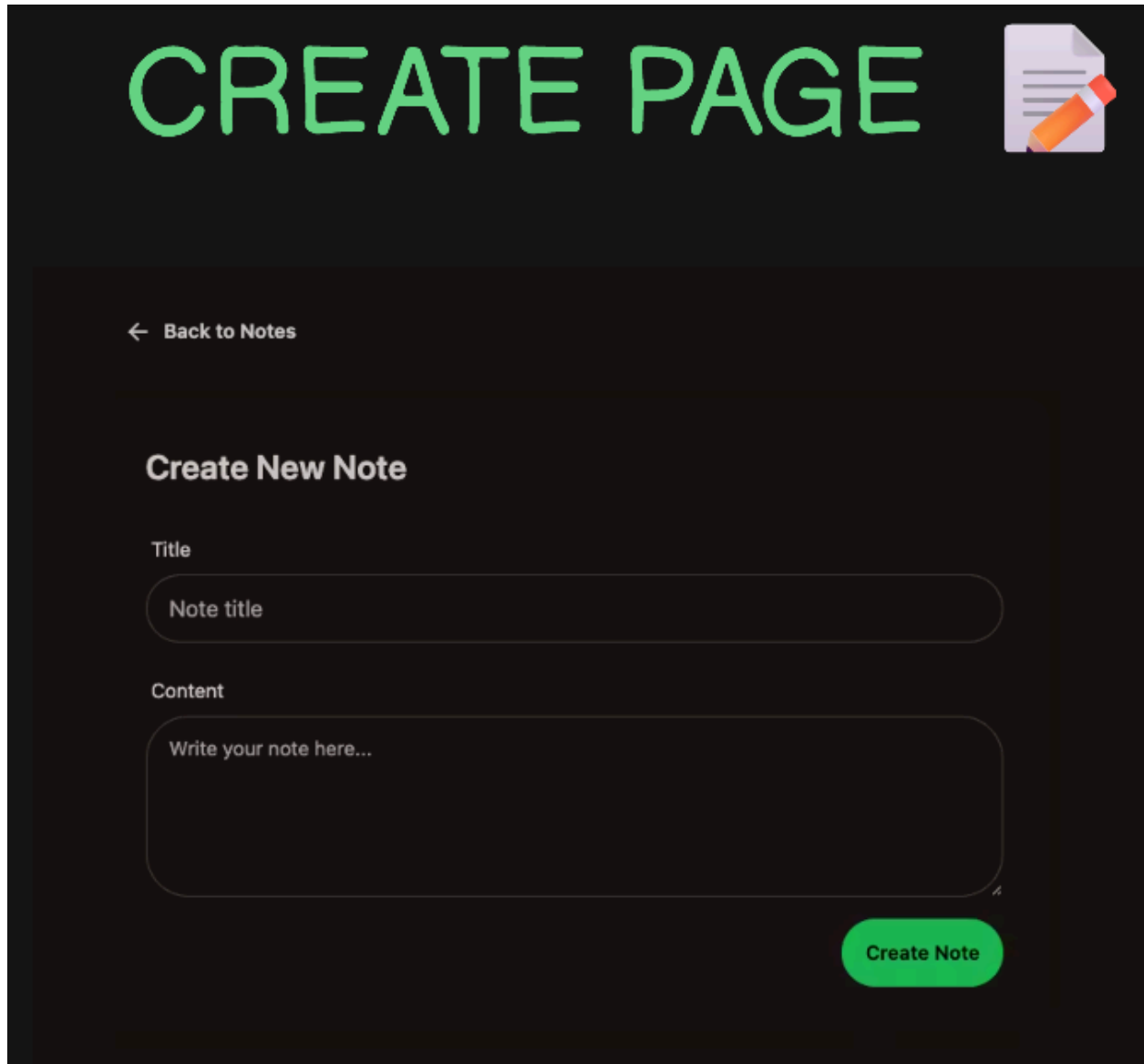
Send request:



Got response:



***For creating Notes:***




The image shows a web interface for creating a new note. At the top, the text 'CREATE PAGE' is displayed in large, green, stylized letters. To the right of this text is an icon of a document with a pencil. Below the header, there is a dark gray background. On the left side of this background, there is a link that says '← Back to Notes'. In the center, there is a white box with the title 'Create New Note'. Inside this box, there are two input fields. The first is labeled 'Title' and contains the placeholder text 'Note title'. The second is labeled 'Content' and contains the placeholder text 'Write your note here...'. At the bottom right of the white box, there is a green button with the text 'Create Note'.

```
export async function createNote(req, res) {  
  // If user want to create a notes:  
  // includes title, content  
  try {  
    // title and content comes from req.body  
    const {title, content} = req.body  
    // by default we can't access this value  
    // To access them(or console it),  
    // Go to server.js, just before the routes  
    // add the code -> app.use(express.json())  
    // which is a middleware that we add  
    console.log(title, content)
```

```
    } catch (error) {  
  
    }  
}
```

In server.js:

```
connectDB()  
  
// middleware  
app.use(express.json())  
  
app.use("/api/notes", notesRoutes)
```



**Create note function:**

```
export async function createNote(req, res) {  
  // If user want to create a notes:  
  // includes title, content  
  try {  
    // title and content comes from req.body  
    const {title, content} = req.body  
    // by default we can't access this value  
    // To access them(or console it),  
    // Go to server.js, just before the routes  
    // add the code -> app.use(express.json())  
    // which is a middleware that we add  
    // console.log(title, content)  
  
    // const newNote = new Note({title:title, content: content})  
    // Since key and value are the same, so the above code can  
    // be replaced as  
    const newNote = new Note({title, content})  
  
    await newNote.save()  
    res.status(201).json({message: "Note created Successfully"})  
  } catch (error) {  
    console.error("Error in createNote controller", error)  
    res.status(500).json({message: "Internal Server Error"})  
  }  
}
```

```
}
```

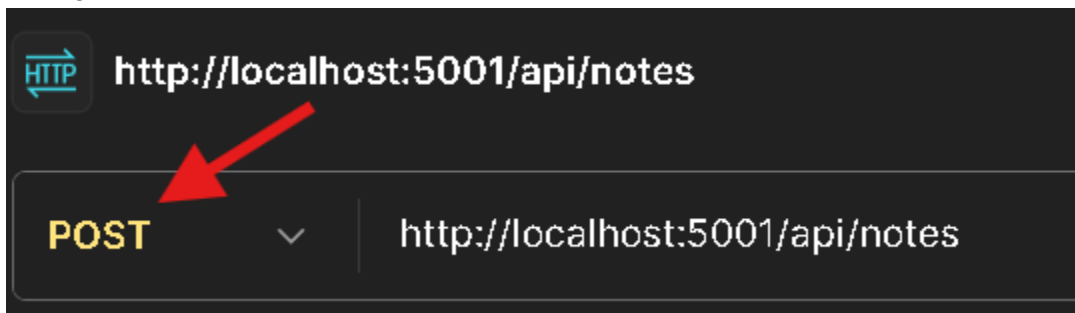
Since createNotes is the post request:

```
router.get("/", getAllNotes)
router.post("/", createNote)
router.put("/:id", updateNote)
router.delete("/:id", deleteNote)
```

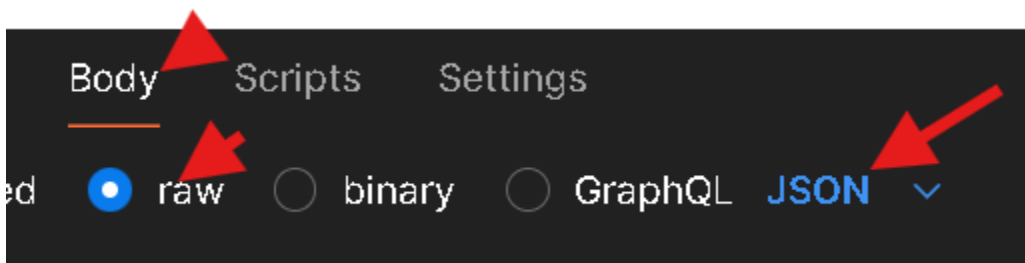
Lets see it in action:

### ***In postman:***

Change it to **post**:

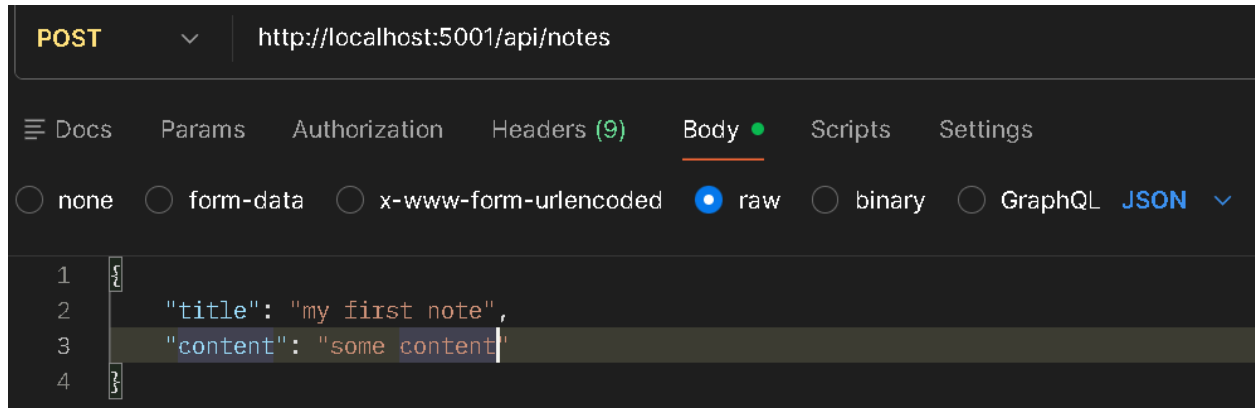


Go to body, make to raw, change to JSON:



Write title and content:

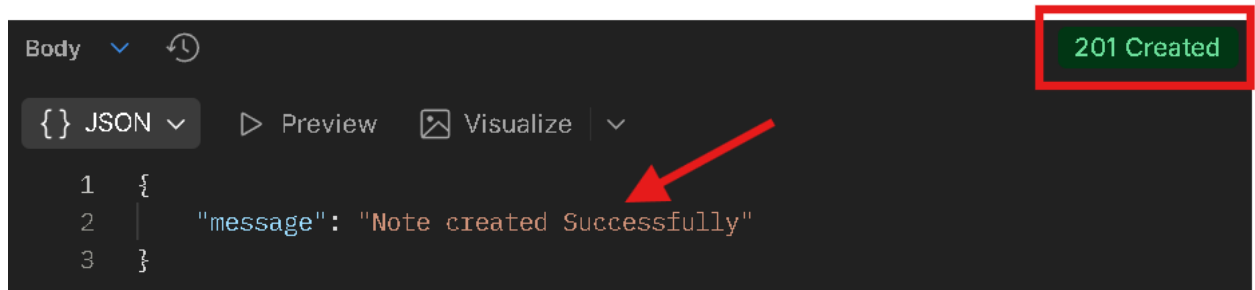
```
{
  "title": "my first note",
  "content": "some content"
}
```



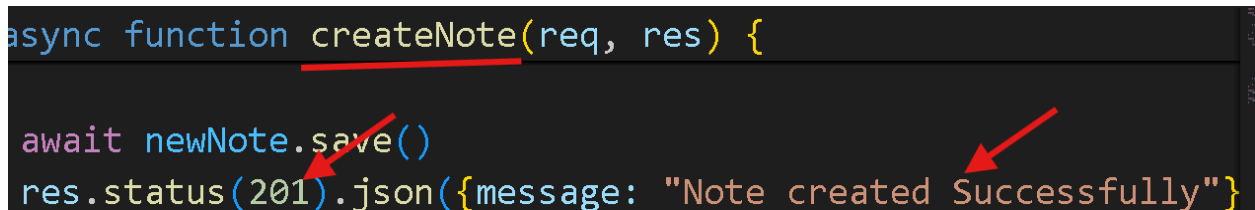
Send post request:



Got response:

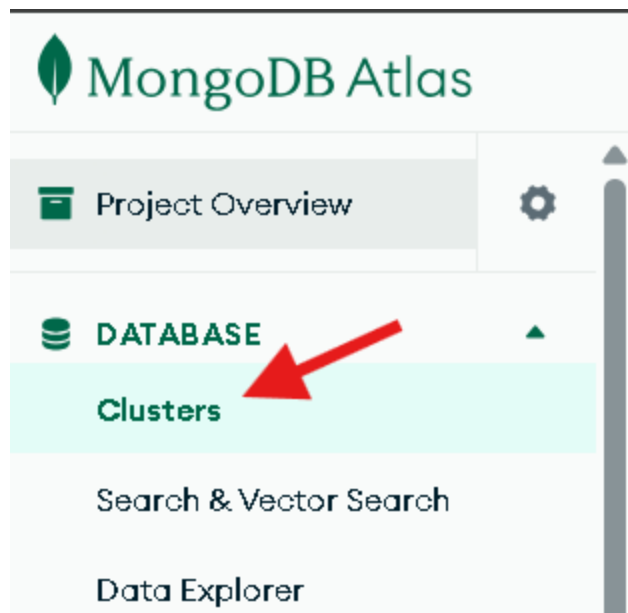


As per the code:



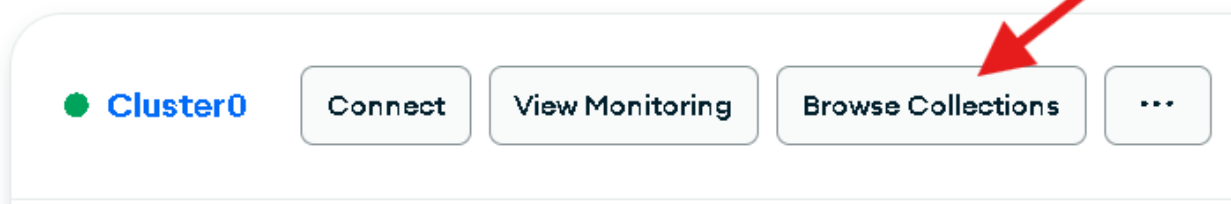
**Check database:**

Login using google.



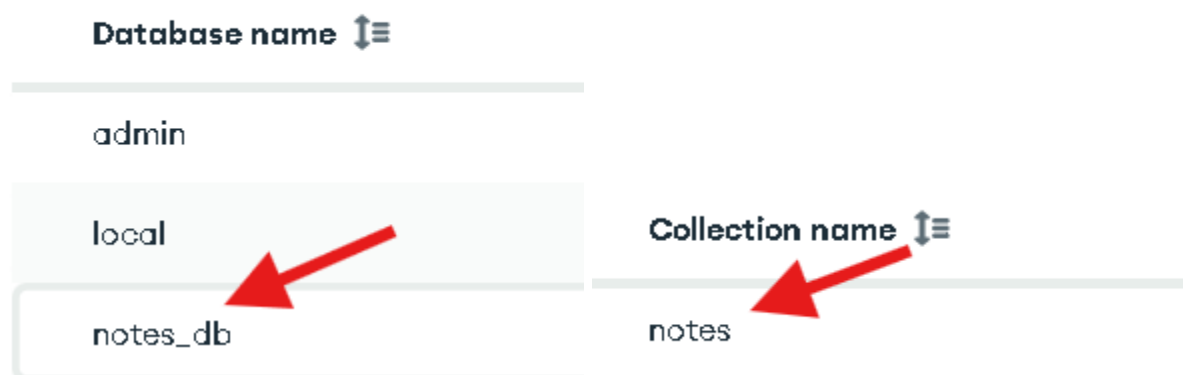
## Clusters

Find a database deployment...



Wait to connect to Custer0

Cluster0



Then in the **notes** collection has:



Cluster0 > notes\_db > notes

Documents 1

Aggregations

Schema

Indexes 1

Validation

Type a query: { field: 'value' } or [Generate query](#)

ADD DATA

UPDATE

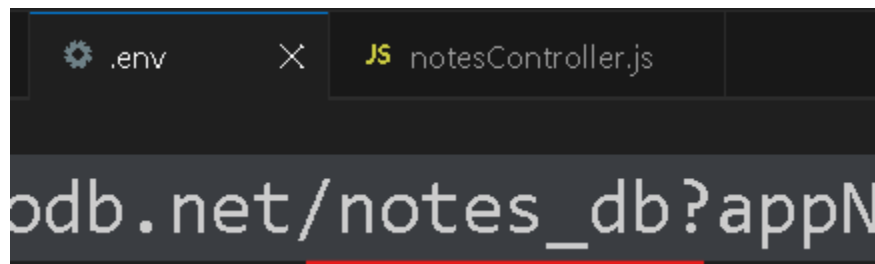
DELETE

EXPORT CODE

```
_id: ObjectId('698b417b5b1032b4854da5f2')
title: "my first note"
content: "some content"
createdAt: 2026-02-10T14:32:27.504+00:00
updatedAt: 2026-02-10T14:32:27.504+00:00
__v: 0
```

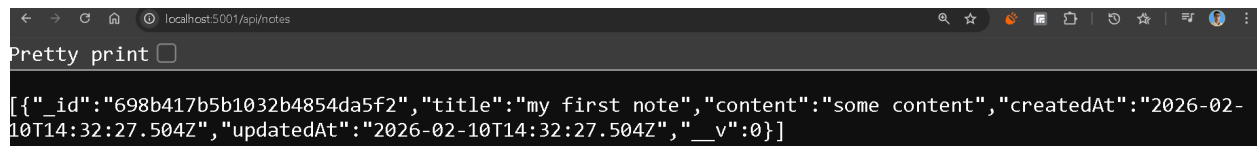
MongoDB has created **\_id**, **createdAt** and **updatedAt**.

**notes\_db** is actually comes from **env** file, when setting up



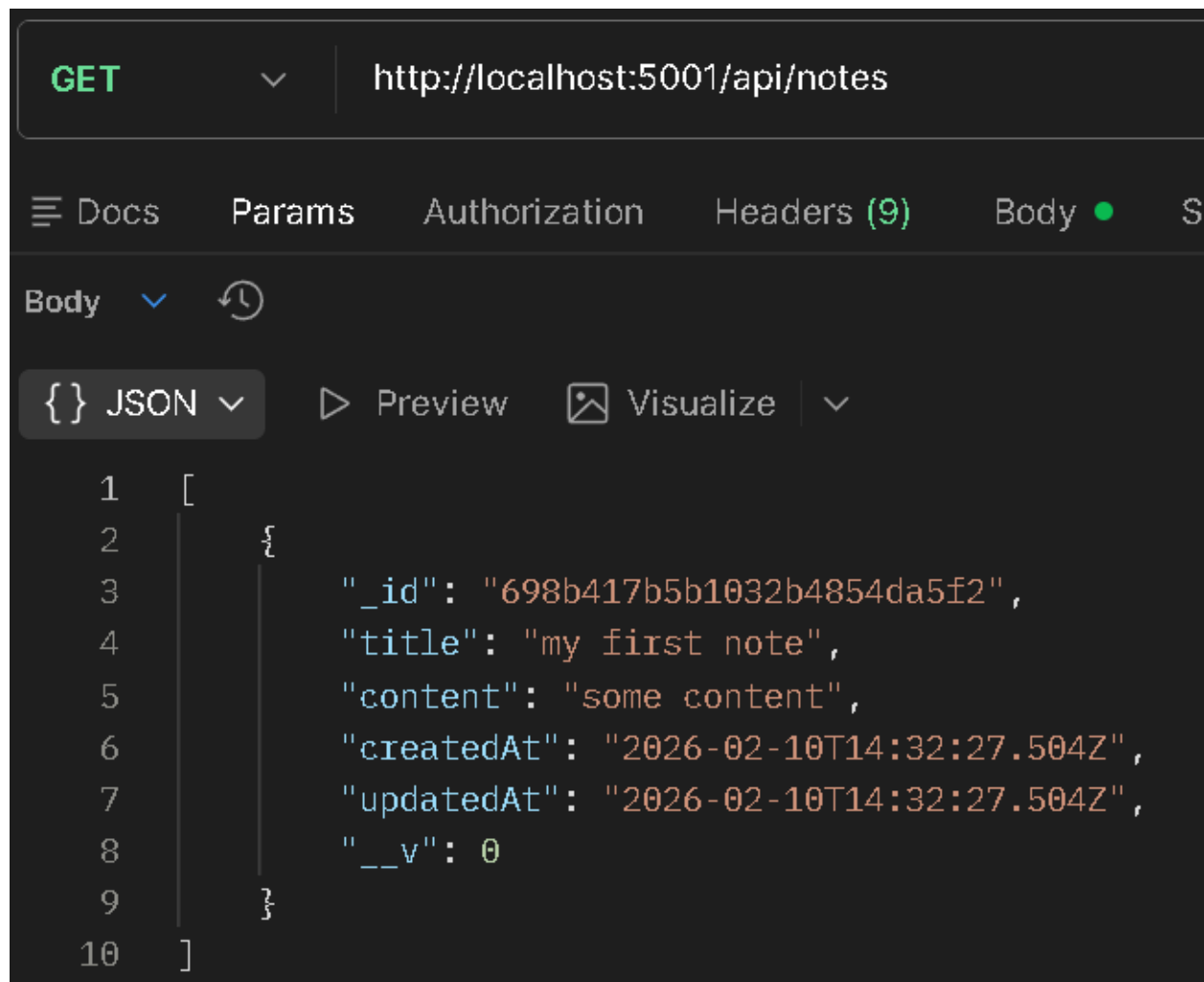
If you have not provided, then database is named as **test**.

In the URL: <http://localhost:5001/api/notes>



Using postman, Get request:

Click send to get response



### ***Code for createNote function:***

```
export async function createNote(req, res) {  
  // If user want to create a notes:  
  // includes title, content  
  try {  
    // title and content comes from req.body  
    const {title, content} = req.body  
    // by default we can't access this value  
    // To access them(or console it),  
    // Go to server.js, just before the routes  
    // add the code -> app.use(express.json())  
    // which is a middleware that we add  
    // console.log(title, content)  
  
    // const newNote = new Note({title:title, content: content})  
  }  
}
```

```

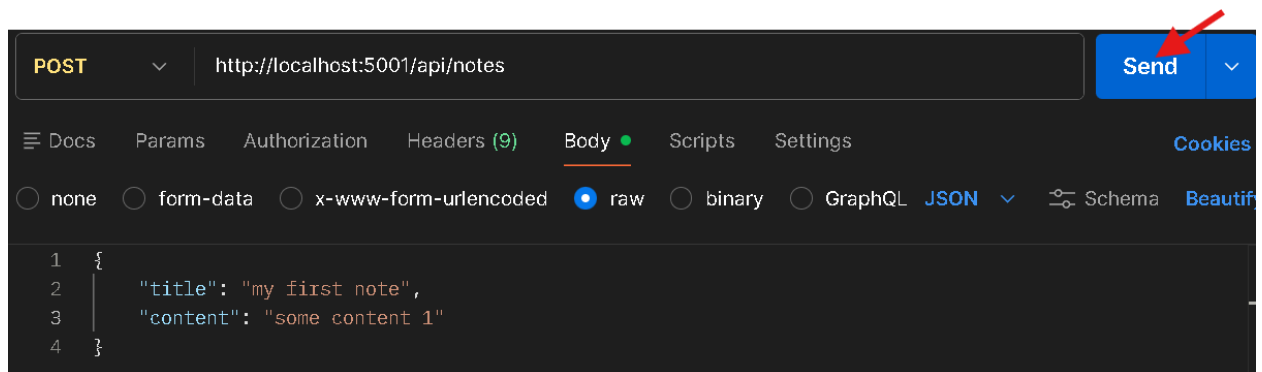
// Since key and value are the same, so the above code can
// be replaced as
// const newNote = new Note({title, content})
// await newNote.save()

const newNote = new Note({title, content})
await newNote.save()
res.status(201).json({message: "Note Created successfully!"})

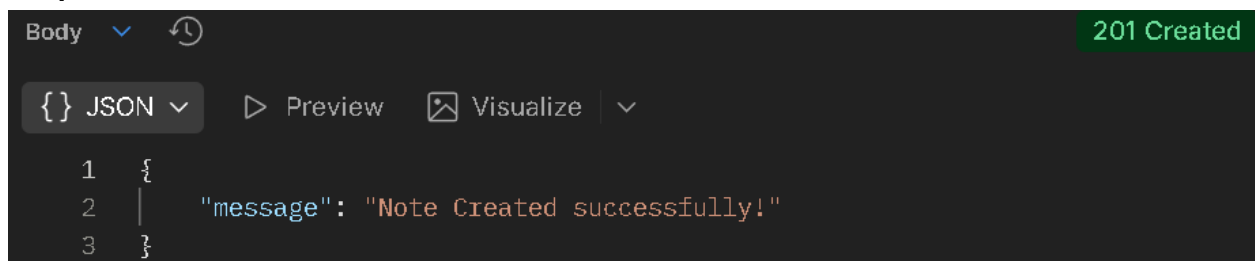
//res.status(201).json({message: "Note created Successfully"})
} catch (error) {
  console.error("Error in createNote controller", error)
  res.status(500).json({message: "Internal Server Error"})
}
}

```

In postman:



Response:



As per the code:

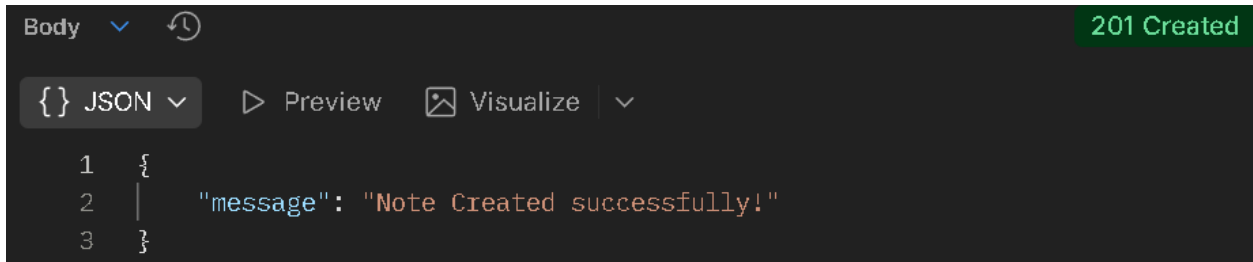
```

async function createNote(req, res) {
  const newNote = new Note({title, content})
  await newNote.save()
  res.status(201).json({message: "Note Created successfully!"})
}

```

A red arrow points to the `res.status(201).json({message: "Note Created successfully!"})` line in the code block.

If we want informational response from postman instead of:



Which is not providing more information.

## ***Code for createNote function:***

```
export async function createNote(req, res) {
  // If user want to create a notes:
  // includes title, content
  try {
    // title and content comes from req.body
    const {title, content} = req.body
    // by default we can't access this value
    // To access them(or console it),
    // Go to server.js, just before the routes
    // add the code -> app.use(express.json())
    // which is a middleware that we add
    // console.log(title, content)

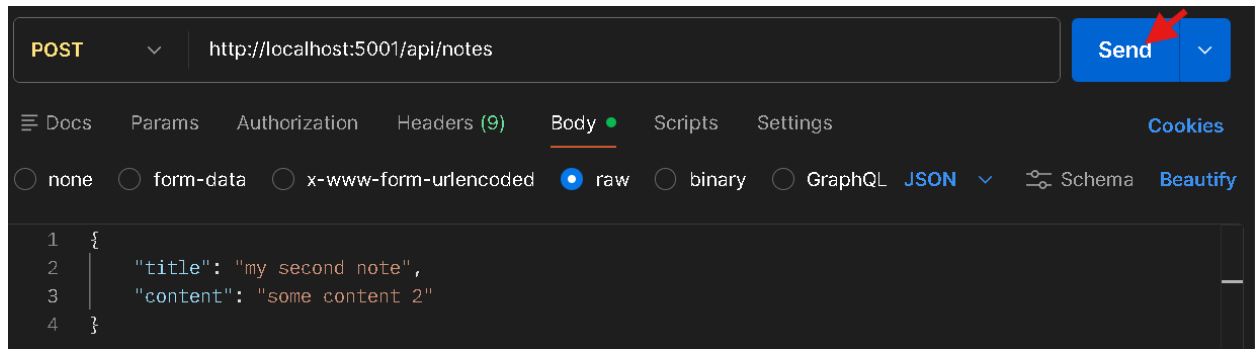
    // const newNote = new Note({title:title, content: content})
    // Since key and value are the same, so the above code can
    // be replaced as
    // const newNote = new Note({title, content})
    // await newNote.save()

    // const newNote = new Note({title, content})
    // await newNote.save()
    // res.status(201).json({message: "Note Created successfully!"})

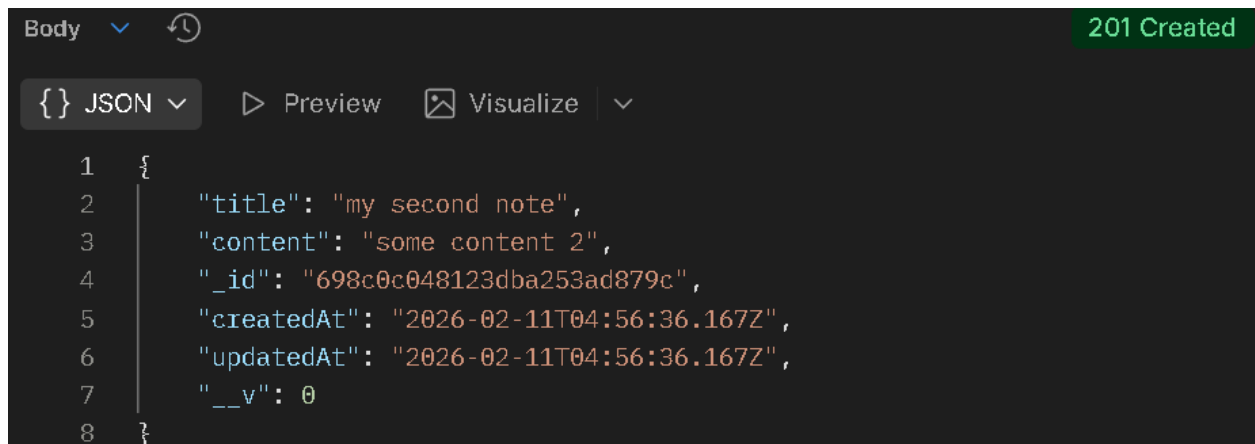
    const note = new Note({title, content})
    const savedNote = await note.save()
    res.status(201).json(savedNote)

  } catch (error) {
    console.error("Error in createNote controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}
```

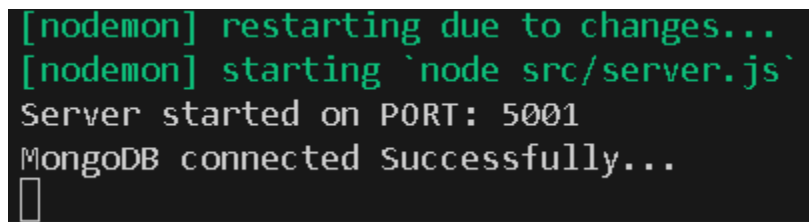
**In postman:**



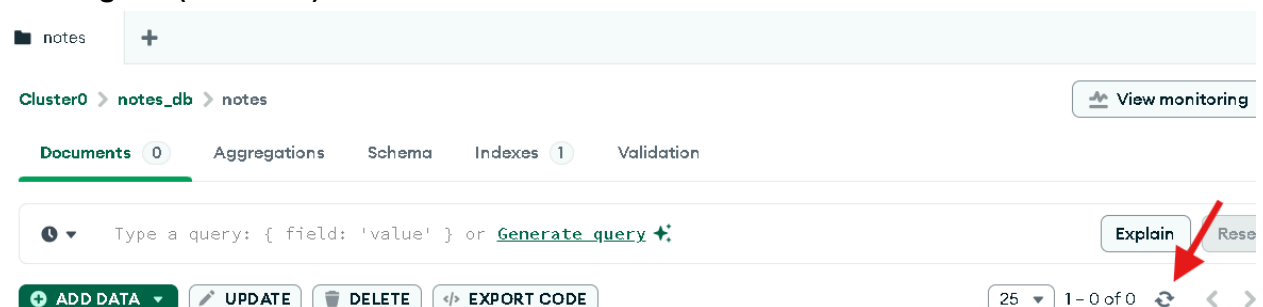
Response:



In terminal:



In MongoDB(refresh it):



Then:

```
_id: ObjectId('698c0c048123dba253ad879c')
title: "my second note"
content: "some content 2"
createdAt: 2026-02-11T04:56:36.167+00:00
updatedAt: 2026-02-11T04:56:36.167+00:00
__v: 0
```

## Concept of Updating:

In [server.js](#):

```
app.use("/api/notes", notesRoutes)
```

In [notesRoutes.js](#):

```
7 router.put("/:id", updateNote)
```

Example for updating, Content:

```
_id: ObjectId('698c0eca8123dba253ad87a0')
title: "my third note"
content: "some content 3"
createdAt: 2026-02-11T05:08:26.101+00:00
updatedAt: 2026-02-11T05:08:26.101+00:00
__v: 0
```

In postman, it must be like

```
PUT http://localhost:5001/api/notes/698c0eca8123dba253ad87a0
```

Code in notesRoutes.js:

```
7 router.put("/:id", updateNote)
```

and in notesController.js update function:

```
await Note.findByIdAndUpdate(req.params.id)
```

Must have same word.

## Code for updateNote Function:

```
export async function updateNote(req, res) {
```

```

try {
  const {title, content} = req.body
  // How do we know id that user sends, so that we can update
  // based on id
  // {title, content} <- things to update
  await Note.findByIdAndUpdate(req.params.id, {title, content})
  res.status(200).json({message: "Note updated successfully."})
} catch (error) {
  console.error("Error in updateNote controller", error)
  res.status(500).json({message: "Internal Server Error"})
}
}

```

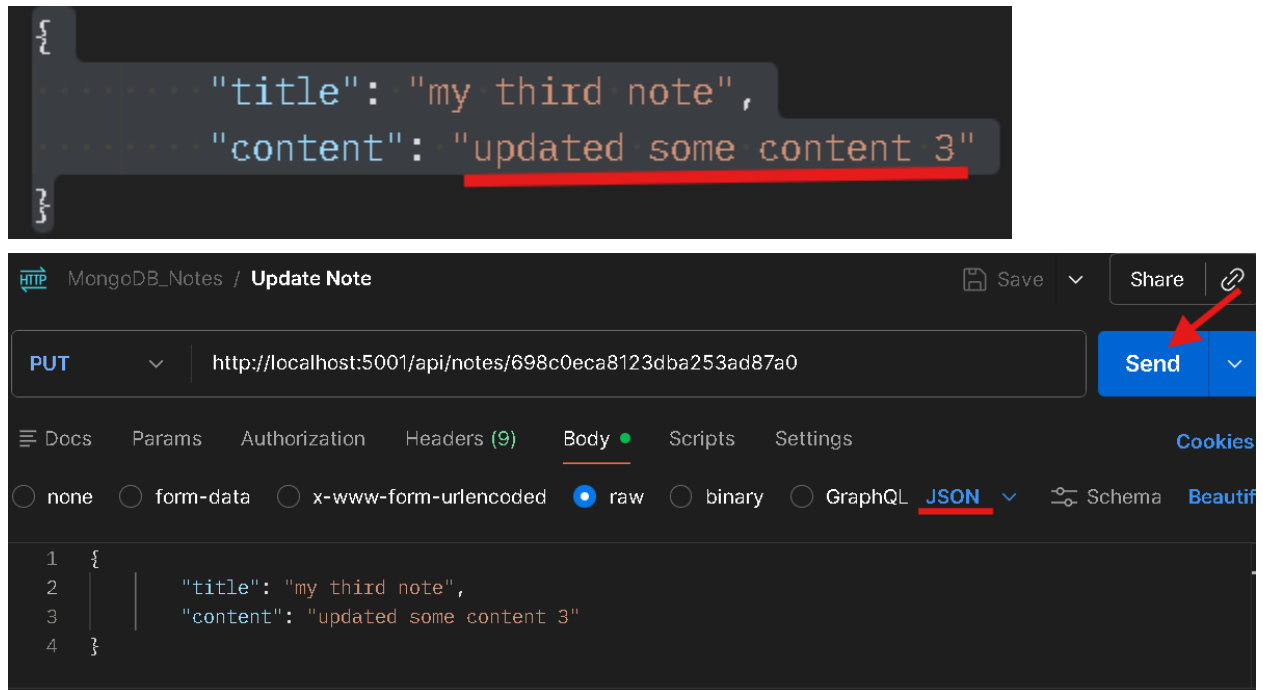
**Initially in MongoDB:**

```

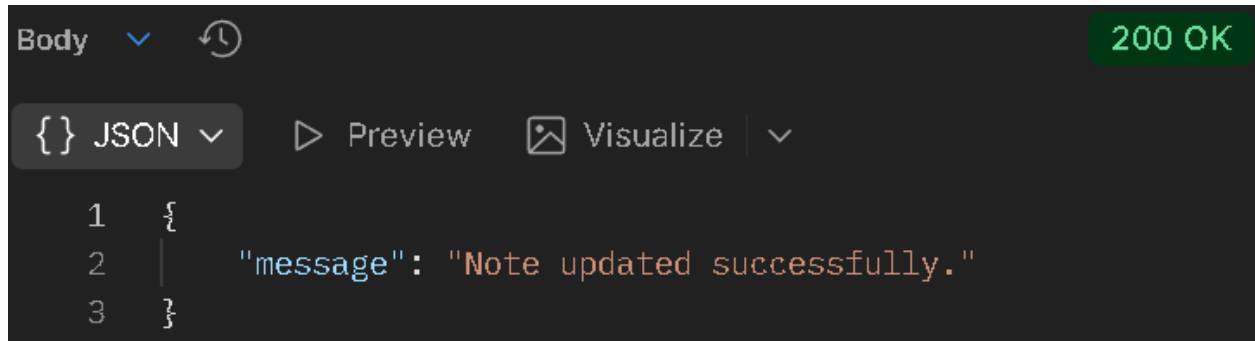
_id: ObjectId('698c0eca8123dba253ad87a0')
title: "my third note"
content: "some content 3"
createdAt: 2026-02-11T05:08:26.101+00:00
updatedAt: 2026-02-11T05:08:26.101+00:00
__v: 0

```

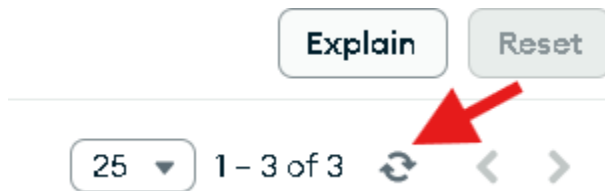
**In Postman:**



**Response:**



Refresh DB:



In MongoDB:

```
_id: ObjectId('698c0eca8123dba253ad87a0')
title: "my third note"
content: "updated some content 3"
createdAt: 2026-02-11T05:08:26.101+00:00
updatedAt: 2026-02-11T06:18:38.733+00:00
__v: 0
```

### ***If user provides invalid ID, during Updating:***

To get fields after update.

was **before** update was applied. If you set new: true, findOneAndUpdate() will instead give you the object after update was applied.

### ***Code for updateNote Function:***

```
export async function updateNote(req, res) {
  try {
    const {title, content} = req.body
    // How do we know id that user sends, so that we can update
    // based on id
    // {title, content} <- things to update
```



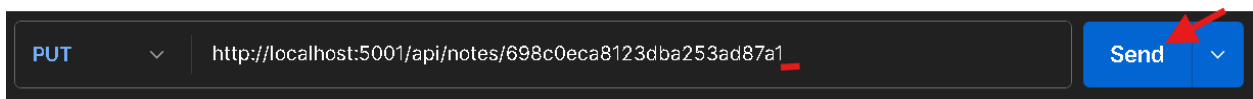
```

// {new: true} <- to get fields
const updatedNote = await Note.findByIdAndUpdate(req.params.id, {title, content}, {new:
true})
// For false value, 404=not found,
if(!updatedNote) return res.status(404).json({message: "Note not found!"})
res.status(200).json({message: "Note updated successfully."})

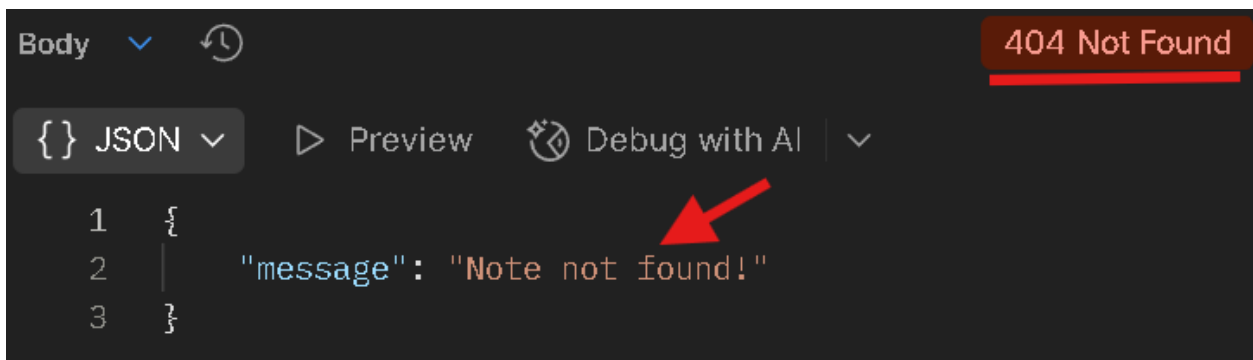
} catch (error) {
  console.error("Error in updateNote controller", error)
  res.status(500).json({message: "Internal Server Error"})
}
}

```

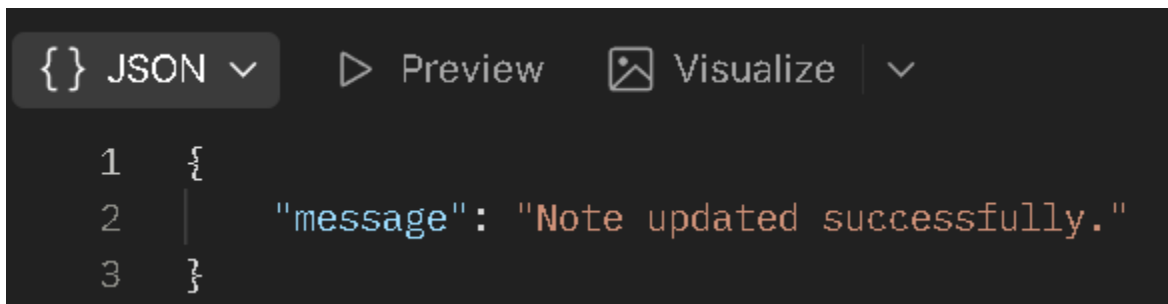
Now in postman:



Response:



For successful update:



To change the response:

## Code for updateNote Function:

```

export async function updateNote(req, res) {
  try {
    const {title, content} = req.body
    // How do we know id that user sends, so that we can update

```

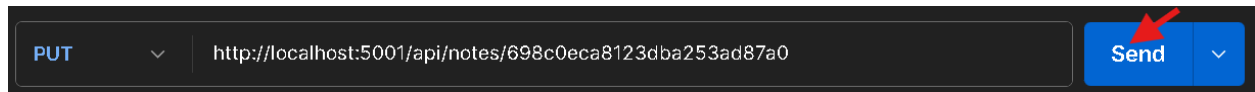
```

// based on id
// {title, content} <- things to update
// {new: true} <- to get fields
const updatedNote = await Note.findByIdAndUpdate(req.params.id, {title, content}, {new:
true})
// For false value, 404=not found,
if(!updatedNote) return res.status(404).json({message: "Note not found!"})
// res.status(200).json({message: "Note updated successfully."})
res.status(200).json(updatedNote)

} catch (error) {
  console.error("Error in updateNote controller", error)
  res.status(500).json({message: "Internal Server Error"})
}
}

```

In postman:



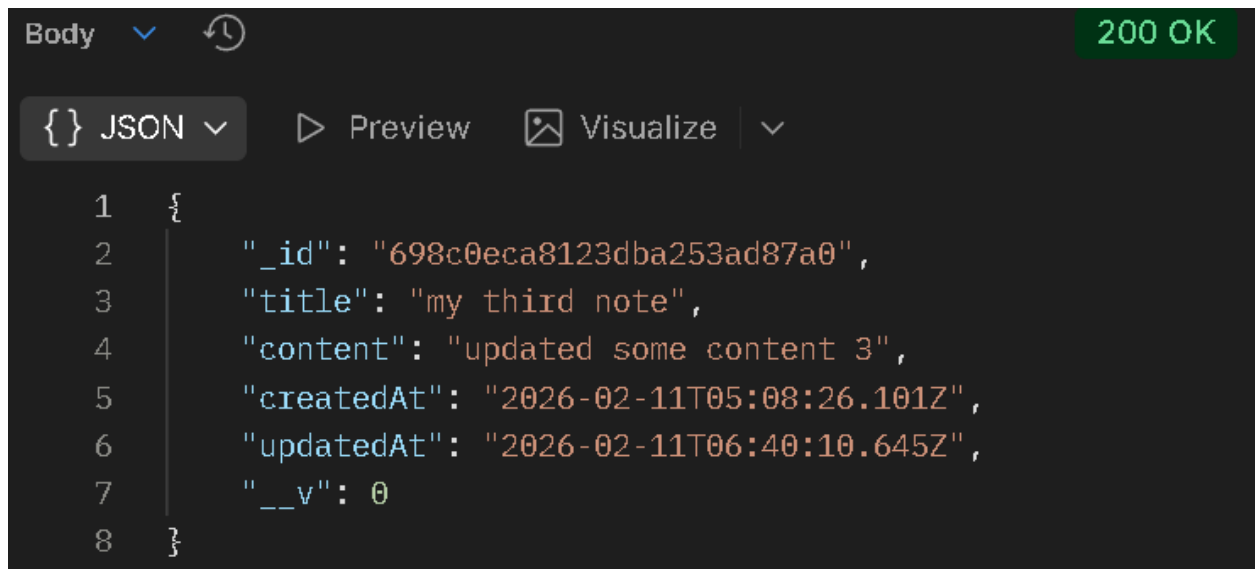
Body, json, raw having:

```

{
  "title": "my third note",
  "content": "updated some content 3"
}

```

Response:



What if title is not provided(JSON Type):

Docs Params Authorization Headers (9) Body Scripts Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL JSON

```
1 {
2   |   "content": "updated some content 123"
3 }
```

Send it:

PUT http://localhost:5001/api/notes/698c0eca8123dba253ad87a0 **Send**

Response:

Body 200 OK

{ } JSON Preview Visualize

```
1 {
2   "_id": "698c0eca8123dba253ad87a0",
3   "title": "my third note",
4   "content": "updated some content 123",
5   "createdAt": "2026-02-11T05:08:26.101Z",
6   "updatedAt": "2026-02-11T06:44:47.394Z",
7   "__v": 0
8 }
```

Refresh in MongoDB:

25 1 - 3 of 3

```
_id: ObjectId('698c0eca8123dba253ad87a0')
title: "my third note"
content: "updated some content 123"
createdAt: 2026-02-11T05:08:26.101+00:00
updatedAt: 2026-02-11T06:44:47.394+00:00
__v: 0
```

## For Deleting the Notes:

In [server.js](#):

A screenshot of a code editor window showing the file 'server.js'. The code contains the line 'app.use("/api/notes", notesRoutes)'. The tabs at the top include 'db.js', 'notesRoutes.js', 'server.js', '.env', and 'notes'.

```
app.use("/api/notes", notesRoutes)
```

In notesRoutes.js:

A screenshot of a code editor window showing the file 'notesRoutes.js'. The code contains the line 'router.delete("/:id", deleteNote)'. The tabs at the top include 'db.js', 'notesRoutes.js', 'server.js', '.env', and 'notes'.

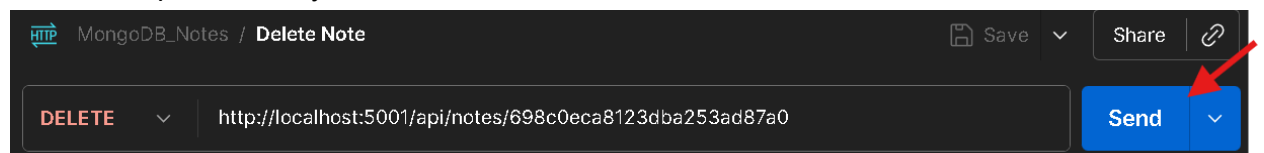
```
router.delete("/:id", deleteNote)
```

## Code in deleteNote:



```
export async function deleteNote(req, res) {  
  try {  
    const deletedNote = await Note.findByIdAndDelete(req.params.id)  
    if (!deletedNote) return res.status(404).json({message: "Note not found!"})  
    // By default status=200  
    res.status(200).json({message: "Note deleted successfully!"})  
  } catch (error) {  
    console.error("Error in deleteNote controller", error)  
    res.status(500).json({message: "Internal Server Error"})  
  }  
}
```

In postman:



No need to provide body






Response:

Body  

200 OK

 JSON 

 Preview  Visualize 

```
1  {
2    "message": "Note deleted successfully!"
3  }
```

**In MongoDB:**

Refresh:



notes



Cluster0 > notes\_db > notes

Documents

3

Aggregations

Schema

Indexes

1



Type a query: { field: 'value' } or [Generate query](#)



ADD DATA



UPDATE



DELETE



EXPORT CODE

```
_id: ObjectId('698c0ab3f540242a5abb0379')
title: "my first note"
content: "some content 1"
createdAt: 2026-02-11T04:50:59.240+00:00
updatedAt: 2026-02-11T04:50:59.240+00:00
__v: 0
```

```
_id: ObjectId('698c0c048123dba253ad879c')
title: "my second note"
content: "some content 2"
createdAt: 2026-02-11T04:56:36.167+00:00
updatedAt: 2026-02-11T04:56:36.167+00:00
__v: 0
```

Third not visible.

In postman, get request:

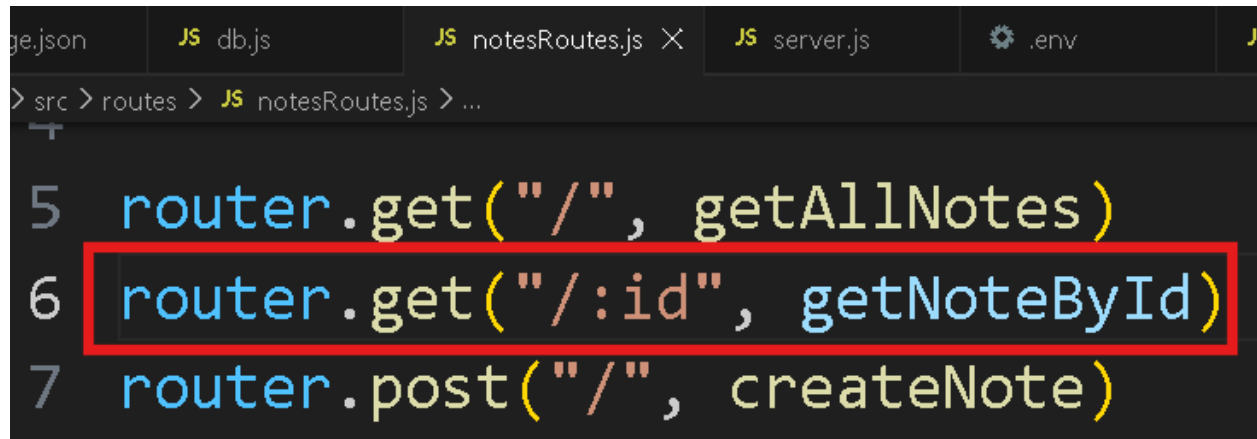


Response:

```
{ } JSON ▾ ▶ Preview 🖼 Visualize ▾  
1  [  
2    {  
3      "_id": "698c0ab3f540242a5abb0379",  
4      "title": "my first note",  
5      "content": "some content 1",  
6      "createdAt": "2026-02-11T04:50:59.240Z",  
7      "updatedAt": "2026-02-11T04:50:59.240Z",  
8      "__v": 0  
9    },  
10   {  
11     "_id": "698c0c048123dba253ad879c",  
12     "title": "my second note",  
13     "content": "some content 2",  
14     "createdAt": "2026-02-11T04:56:36.167Z",  
15     "updatedAt": "2026-02-11T04:56:36.167Z",  
16     "__v": 0  
17   }  
18 ]
```

***To fetch the user based on ID:***

In notesRoutes.js:



```
5 router.get("/", getAllNotes)
6 router.get("/:id", getNoteById)
7 router.post("/", createNote)
```

Also import it:

So finally [notesRoutes.js](#) has:

```
import express from "express"
```

```
import { getAllNotes, getNoteById, createNote, updateNote, deleteNote } from  
"../controllers/notesController.js"
```

```
const router = express.Router()
```

```
router.get("/", getAllNotes)
```

```
router.get("/:id", getNoteById)
```

```
router.post("/", createNote)
```

```
router.put("/:id", updateNote)
```

```
router.delete("/:id", deleteNote)
```

```
export default router;
```

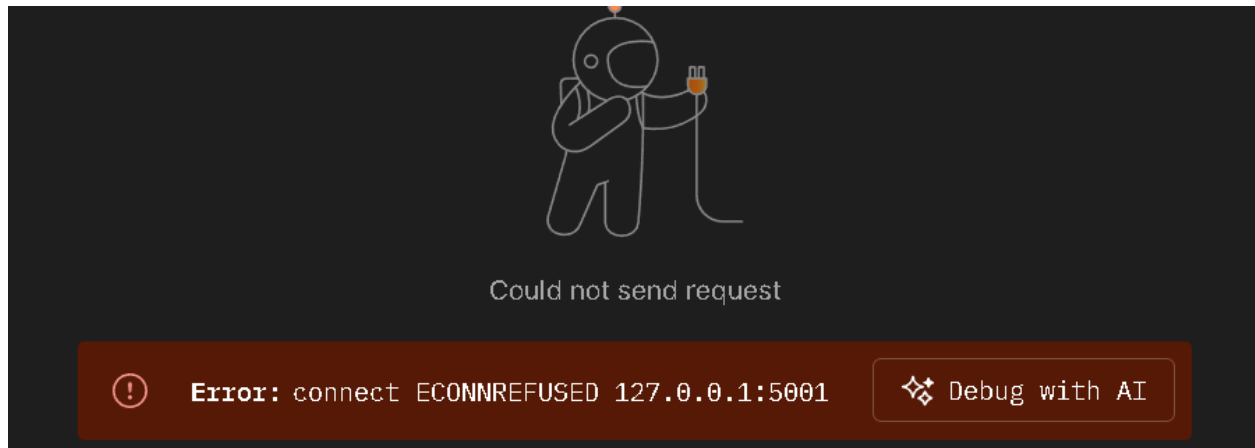
Now let's create its controller.

### ***Code for getNoteById function:***

```
export async function getNoteById(req, res) {  
  try {  
    const note = await Note.findById(req.params.id)  
    if(!note) return res.status(404).json({message: "Note not Found!"})  
    res.json(note)  
  } catch (error) {  
    console.error("Error in getNoteById controller", error)  
    res.status(500).json({message: "Internal Server Error"})  
  }  
}
```

If in postman, if you get error:





Solution is: run the server

```
PS C:\Users\kiran\OneDrive\Desktop\mern-thinkboard> cd .\backend\  
PS C:\Users\kiran\OneDrive\Desktop\mern-thinkboard\backend> npm run dev  
  
> backend@1.0.0 dev  
> nodemon src/server.js  
  
[nodemon] 3.1.11  
[nodemon] to restart at any time, enter `rs`  
[nodemon] watching path(s): *.*  
[nodemon] watching extensions: js,mjs,cjs,json  
[nodemon] starting `node src/server.js`  
Server started on PORT: 5001  
MongoDB connected Successfully...  
█
```

Copy the id, from **get Request from** notes.

HTTP MongoDB\_Notes / Read Notes

GET

http://localhost:5001/api/notes

Docs

Params

Authorization

Headers (7)

Body

Body

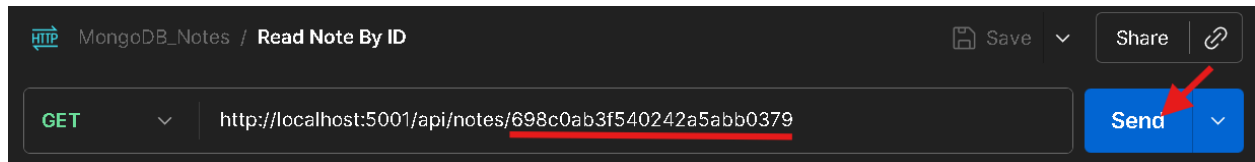
{ } JSON

Preview

Visualize

```
1  [
2      {
3          "_id": "698c0ab3f540242a5abb0379",
4          "title": "my first note",
5          "content": "some content 1",
6          "createdAt": "2026-02-11T04:50:59.240Z",
7          "updatedAt": "2026-02-11T04:50:59.240Z",
8          "__v": 0
9      },
10     {
11         "_id": "698c0c048123dba253ad879c",
12         "title": "my second note",
13         "content": "some content 2",
14         "createdAt": "2026-02-11T04:56:36.167Z",
15         "updatedAt": "2026-02-11T04:56:36.167Z",
16         "__v": 0
17     }
18 ]
```

Paste to get note by ID:



**Response:**

```
{
  "_id": "698c0ab3f540242a5abb0379",
  "title": "my first note",
  "content": "some content 1",
  "createdAt": "2026-02-11T04:50:59.240Z",
  "updatedAt": "2026-02-11T04:50:59.240Z",
  "__v": 0
}
```

***To sort all the notes:***

Like newest first.

```
ion getAllNotes(req, res) {

nd(), to get every single note
reatedAt: -1}) <= newest first
s = await Note.find().sort({createdAt: -1})
// send notes as json
```

Then in postman:

GET

http://localhost:5001/api/notes

Docs

Params

Authorization

Headers (7)

Body

Sc

Body

{ } JSON

Preview

Visualize

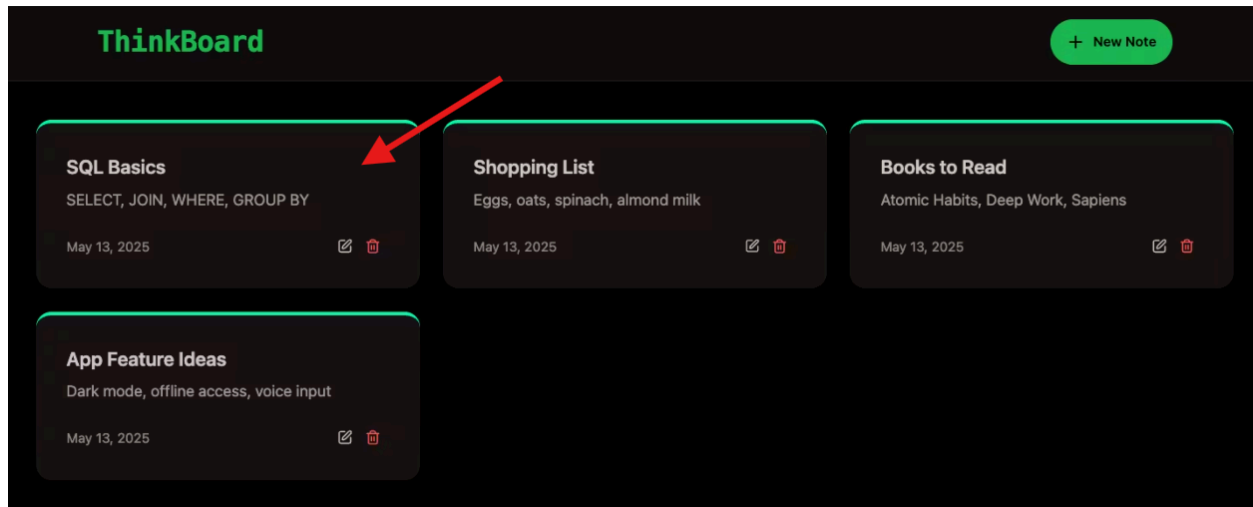
```

1  [
2      {
3          "_id": "698c0c048123dba253ad879c",
4          "title": "my second note",
5          "content": "some content 2",
6          "createdAt": "2026-02-11T04:56:36.167Z",
7          "updatedAt": "2026-02-11T04:56:36.167Z",
8          "__v": 0
9      },
10     {
11         "_id": "698c0ab3f540242a5abb0379",
12         "title": "my first note",
13         "content": "some content 1",
14         "createdAt": "2026-02-11T04:50:59.240Z",
15         "updatedAt": "2026-02-11T04:50:59.240Z",
16         "__v": 0
17     }
18 ]

```

So **my second note(title)** has come to the first place.

So that I can get the latest note at the beginning:



### Code in [server.js](#):

```
import express from "express"
import notesRoutes from "../routes/notesRoutes.js"
import { connectDB } from "../config/db.js"

import dotenv from "dotenv"
dotenv.config()

//console.log(process.env.MONGO_URI)

const app = express()
// if process.env.PORT is undefined then PORT = 5001 (by default value)
const PORT = process.env.PORT || 5001

connectDB()

// middleware: are used to control title and content
// instead of providing it from postman
app.use(express.json())

app.use("/api/notes", notesRoutes)

app.listen(PORT, () => {
  console.log("Server started on PORT:", PORT)
})
```

## **Code in notesRoutes.js:**

```
import express from "express"
import { getAllNotes, getNoteById, createNote, updateNote, deleteNote } from
"./controllers/notesController.js"
const router = express.Router()

router.get("/", getAllNotes)
router.get("/:id", getNoteById)
router.post("/", createNote)
router.put("/:id", updateNote)
router.delete("/:id", deleteNote)

export default router;
```

## **Code in notesController.js:**

```
import Note from "../models/Note.js"

export async function getAllNotes(req, res) {
  try {
    // Note.find(), to get every single note
    // sort({createdAt: -1}) <= newest first
    // by default createdAt: 1
    const notes = await Note.find().sort({createdAt: -1})
    // Send status, send notes as json
    res.status(200).json(notes)
  } catch (error) {
    // For debugging purpose
    console.error("Error in getAllNotes controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}

export async function getNoteById(req, res) {
  try {
    const note = await Note.findById(req.params.id)
    if(!note) return res.status(404).json({message: "Note not Found!"})
    res.json(note)
  } catch (error) {
    console.error("Error in getNoteById controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}
```

```

export async function createNote(req, res) {
  // If user want to create a notes:
  // includes title, content
  try {
    // title and content comes from req.body
    const {title, content} = req.body
    // by default we can't access this value
    // To access them(or console it),
    // Go to server.js, just before the routes
    // add the code -> app.use(express.json())
    // which is a middleware that we add
    // console.log(title, content)

    // const newNote = new Note({title:title, content: content})
    // Since key and value are the same, so the above code can
    // be replaced as
    // const newNote = new Note({title, content})
    // await newNote.save()

    // const newNote = new Note({title, content})
    // await newNote.save()
    // res.status(201).json({message: "Note Created successfully!"})

    const note = new Note({title, content})
    const savedNote = await note.save()
    res.status(201).json(savedNote)

  } catch (error) {
    console.error("Error in createNote controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}

export async function updateNote(req, res) {
  try {
    const {title, content} = req.body
    // How do we know id that user sends, so that we can update
    // based on id
    // {title, content} <- things to update
    // {new: true} <- to get fields
    const updatedNote = await Note.findByIdAndUpdate(req.params.id, {title, content}, {new:
true})
    // For false value, 404=not found,

```

```
    if(!updatedNote) return res.status(404).json({message: "Note not found!"})
    // res.status(200).json({message: "Note updated successfully."})
    res.status(200).json(updatedNote)

  } catch (error) {
    console.error("Error in updateNote controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}

export async function deleteNote(req, res) {
  try {
    const deletedNote = await Note.findByIdAndDelete(req.params.id)
    if (!deletedNote) return res.status(404).json({message: "Note not found!"})
    res.status(200).json({message: "Note deleted successfully!"})
  } catch (error) {
    console.error("Error in deleteNote controller", error)
    res.status(500).json({message: "Internal Server Error"})
  }
}
```