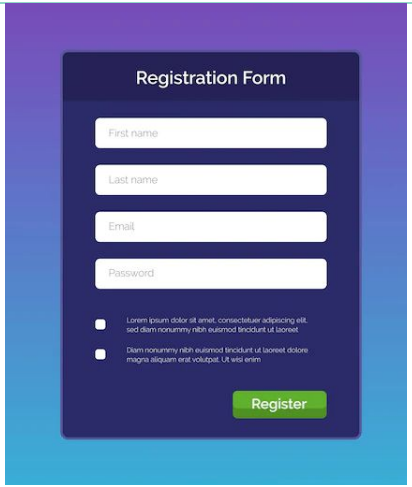
Express Middleware, Forms and Saving Data in FS

All functionality b/w req & res



Registration Form

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Last name

Email

Password

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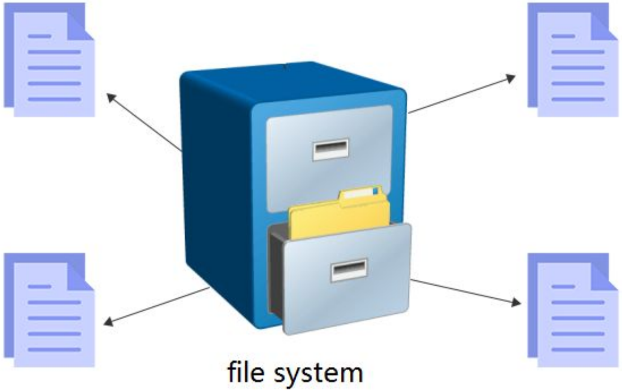
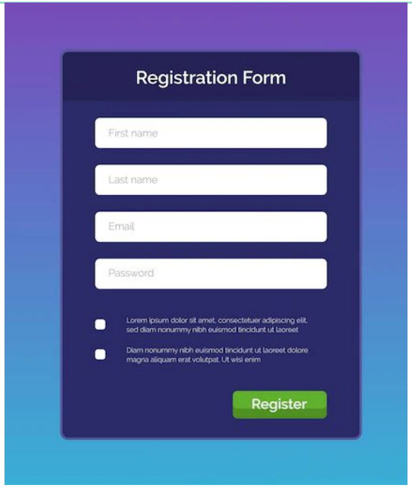


Express Middleware, Forms and Saving Data in FS

Reading req & process further

By Aquib Ajani



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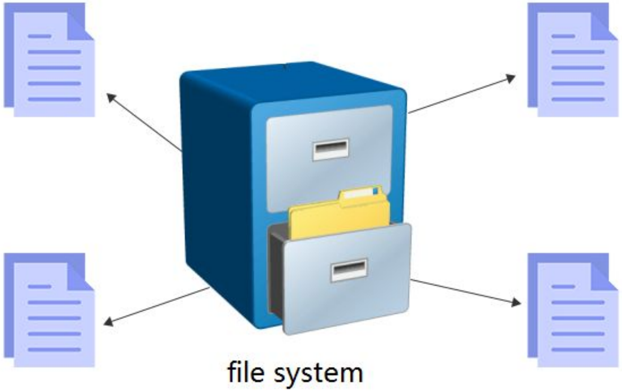


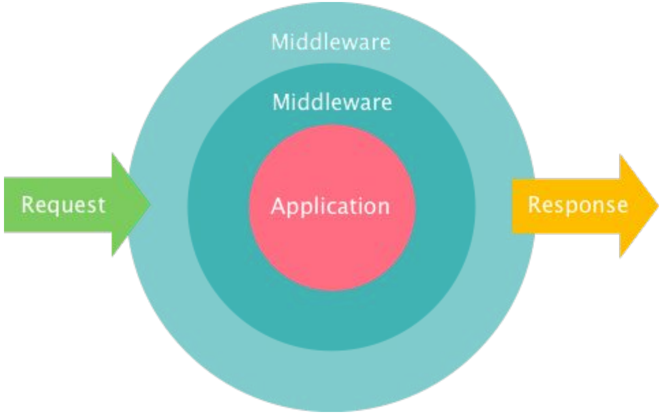
Express Middleware

What is middleware?

Middleware functions have access to the request object (req), the response object (res), and the next middleware function to be invoked in the application's request-response cycle.

Middleware functions can perform the following tasks

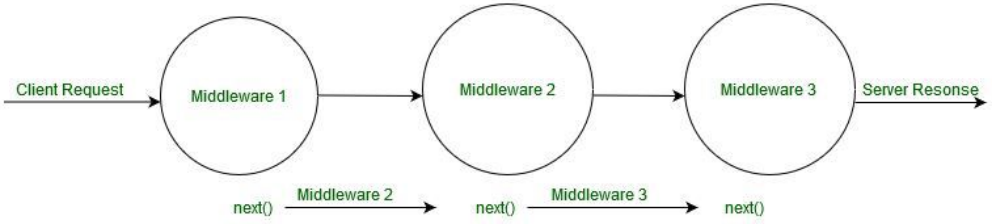
- Execute a piece of code
- Modify the request and the response objects
- Terminate the request-response cycle
- Invoke the next middleware function



Express Middleware

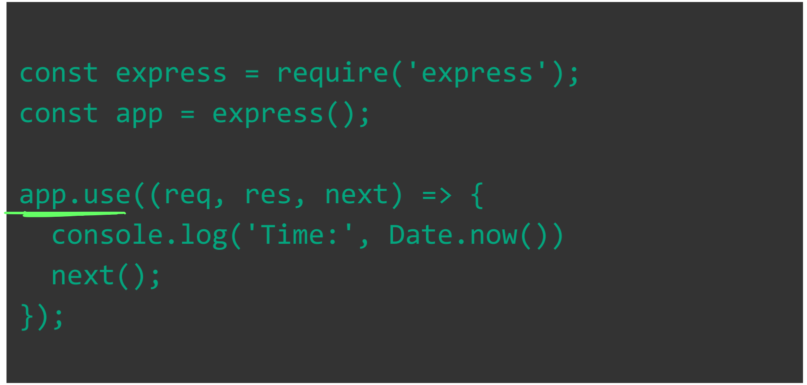
Types of Express Middleware

- Application-level middleware
- Router-level middleware
- Error-handling middleware
- Built-in middleware
- Third-party middleware



Application-level middleware

⇒ As soon as req is sent or res is received at that time which middleware invoke automatically without requiring any -(path/Route



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

app.use((req, res, next) => {
  console.log('Time:', Date.now())
  next();
});
```

Router-level middleware

⇒ Runs after the application is loaded and before anything is shown at the screen.

```
const express = require('express');
const app = express();
const router = express.Router();

router.use((req, res, next) => {
  console.log('Time: ', Date.now());
  next();
})

router.get('/', (req, res) => {
  res.send('Home page');
})

router.get('/about', (req, res) => {
  res.send('About page);
})

app.use('/', router);
```

Error-handling middleware

⇒ Used to display errors

```
app.use((err, req, res, next) => {
  console.error(err.stack);
  res.status(500).send('Something went wrong!');
});
```

Built-in middleware

```
express.static serves static assets such as HTML files, images, and so on.
express.json parses incoming requests with JSON payloads
express.urlencoded parses incoming requests with URL-encoded payloads
```

Text → JSON

submit sth

Third-party middleware → External Packages built for Express

```
npm install cookie-parser
```

```
const express = require('express');
const app = express();
const cookieParser = require('cookie-parser');

// load the cookie-parsing middleware
app.use(cookieParser());

app.get('/', function (req, res) {
    console.log('Cookies: ', req.cookies);
    console.log('Signed Cookies: ', req.signedCookies);
});
```

Express Middleware, Forms and Saving Data in FS

search

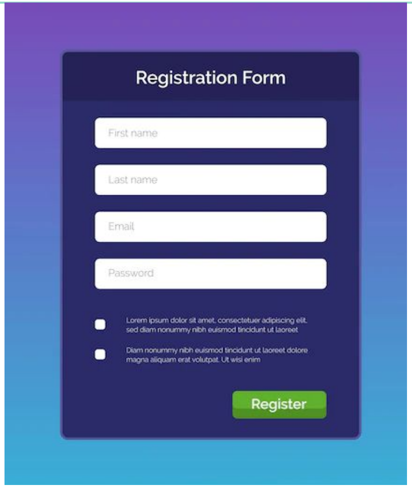
Login, Sign-up forms

Payment details,

credit-debit card info

LinkedIn forms

Google Search



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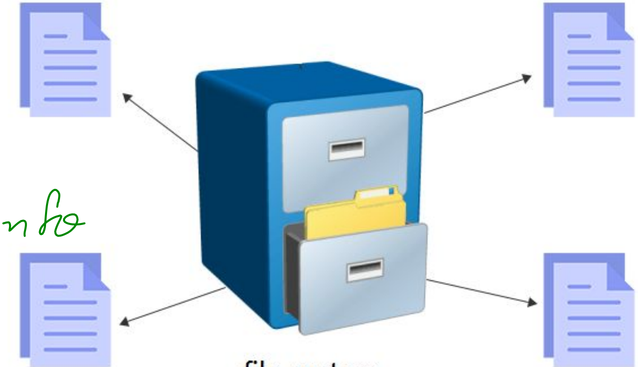

file system

Handling forms in Express

Step 1. Initialise the project with **npm init**

```
npm init
```

Step 2. Install **express**

```
npm install express
```

Step 3. Create the **html form**

.html

```
<form method="POST" action="/submit-form">
  <input type="text" name="username" />
  <input type="submit" />
</form>
```

Form will go to html file to index.js

Form will be controlled from here

action => "./index.js"

<input name="—">

works like a link b/w Frontend & Back-end

Post => Private Data

Get => Url (Public)

Handling forms in Express

Step 4. Reading the form data in Express (urlencoded)

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

app.use(express.urlencoded({
  extended: true
}));

app.post('/submit-form', (req, res) => {
  const username = req.body.username
  res.end();
});
```

Step 5. Displaying the data to the user

```
document.getElementById(“userName”).innerHTML = username;
```

Code for thought

Try validating the form data with the express-validator package

↳ Research by yourself

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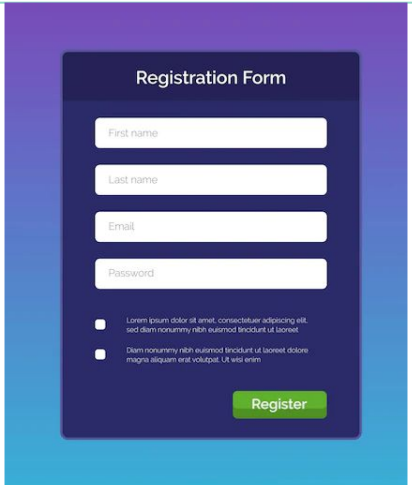

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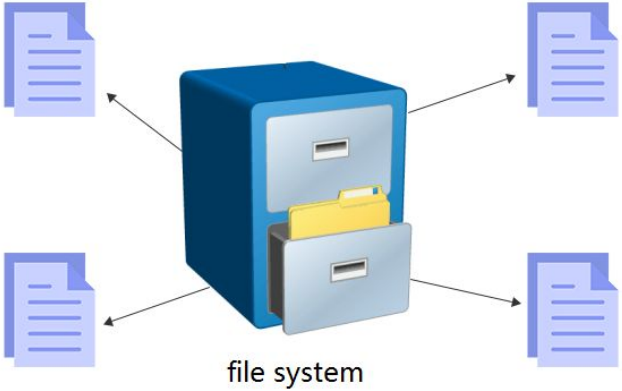


Node.js File System

To work with files, we have to use the file system module

```
let fs = require('fs');
```

There are 5 major actions we can perform on files :

1. Read data from a file
2. Create a new file
3. Update an existing file
4. Delete an existing file
5. Rename an existing file

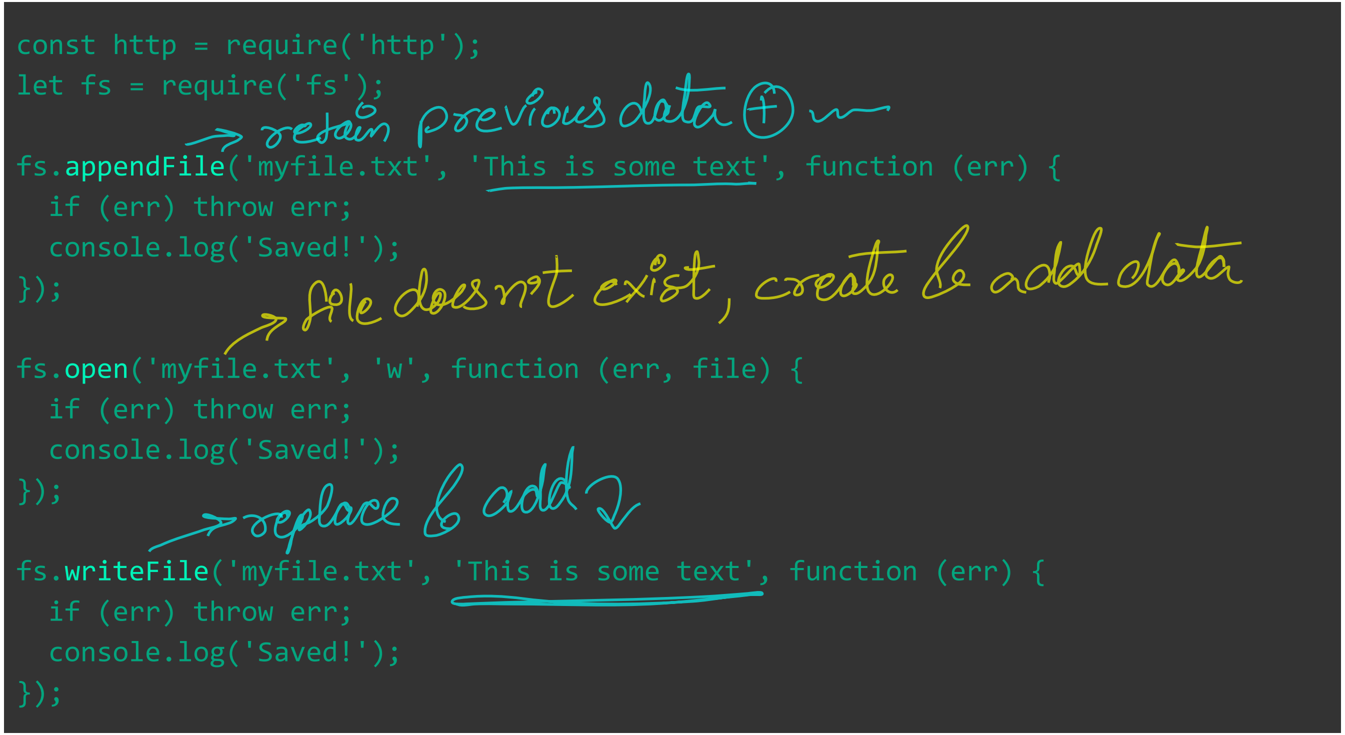
Node.js File System

Read data from a file

```
const http = require('http');
let fs = require('fs');
http.createServer(function (req, res) {
  fs.readFile('myfile.html', function(err, data) {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write(data);
    return res.end();
  });
}).listen(3000);
```

Node.js File System

Create a new file



```
const http = require('http');
let fs = require('fs');
```

→ retain previous data ⊕

```
fs.appendFile('myfile.txt', 'This is some text', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```

→ file does not exist, create & add data

```
fs.open('myfile.txt', 'w', function (err, file) {
  if (err) throw err;
  console.log('Saved!');
});
```

→ replace & add ↓

```
fs.writeFile('myfile.txt', 'This is some text', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```

Node.js File System

Update an existing file

```
const http = require('http');
let fs = require('fs');

fs.appendFile('myfile.txt', 'This is some text', function (err) {
  if (err) throw err;
  console.log('Saved!');
});

fs.writeFile('myfile.txt', 'This is some text', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```

Node.js File System

Delete an existing file

```
const http = require('http');
let fs = require('fs');

fs.unlink('myfile.txt', function (err) {
  if (err) throw err;
  console.log('File deleted!');
});
```

Node.js File System

Rename an existing file

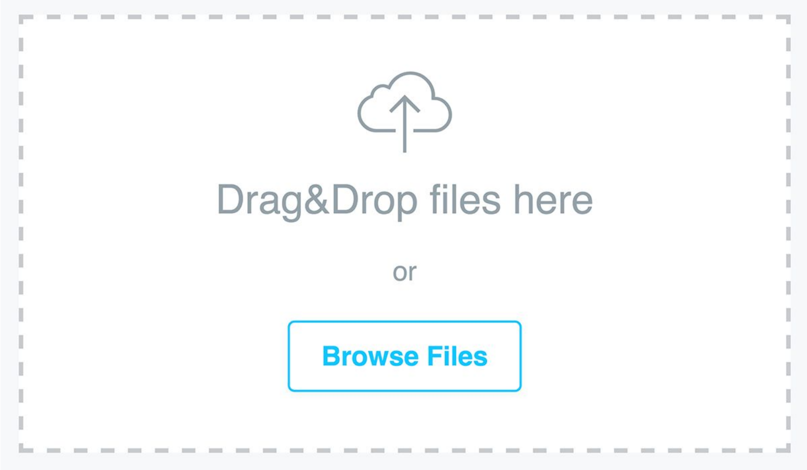
```
const http = require('http');
let fs = require('fs');

fs.rename('myfile.txt', 'mynewfile.txt', function (err) {
  if (err) throw err;
  console.log('File Renamed!');
});
```

new

Code for thought

Ques - 2

Try uploading files with Node.js using the formidable module



Drag&Drop files here

or

Browse Files

Ques⇒ 3 How to put data when you create file by open method ?

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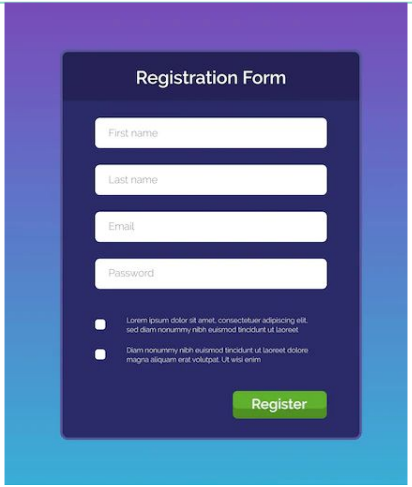

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