

```
data > {} data.json > ...
1 {
2   "friends": [
3     {"id": 1, "name": "Jashanpreet Singh"},
4     {"id": 2, "name": "Ridamnoor Kaur"},
5     {"id": 3, "name": "Brijesh Das"},
6     {"id": 4, "name": "Mohit Kumar"},
7     {"id": 5, "name": "Ramesh Apte"},
8     {"id": 6, "name": "Kamlesh Sharma"}
9   ]
10 }
11
```

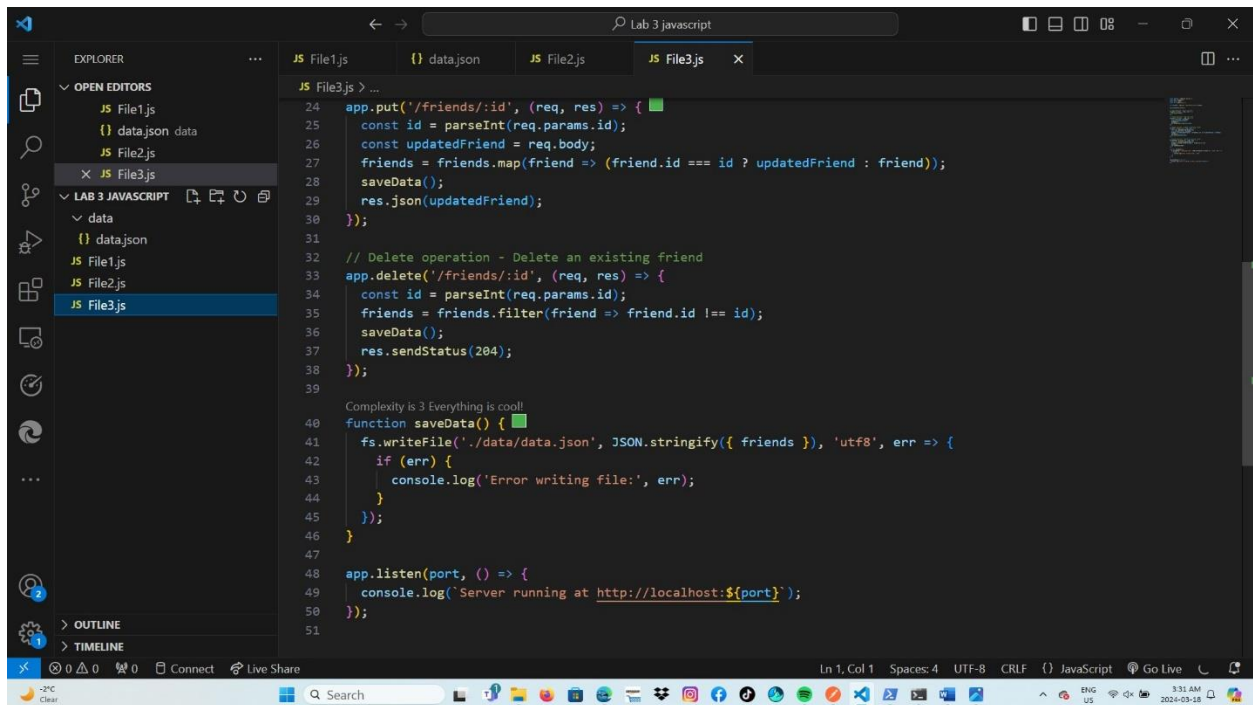
```
JS File1.js > ...
1 const express = require('express');
2 const app = express();
3 const port = 3001;
4 const jsonData = require('./data/data.json');
5
6 const groupNames = jsonData.friends.map(friend => friend.name);
7
8 app.get('/', (req, res) => {
9   res.send(`<h1>Group Names:</h1><ul>${groupNames.map(name => `<li>${name}</li>`).join('')}</ul>`);
10 });
11
12 app.listen(port, () => {
13   console.log(`Server running at http://localhost:${port}`);
14 });
15
```

This screenshot shows the VS Code editor with the 'JS File2.js' file open. The code implements a GET endpoint for retrieving friends data. The Explorer sidebar shows the project structure with 'data.json' and 'data' folder. The Outline and Timeline panels are visible at the bottom left.

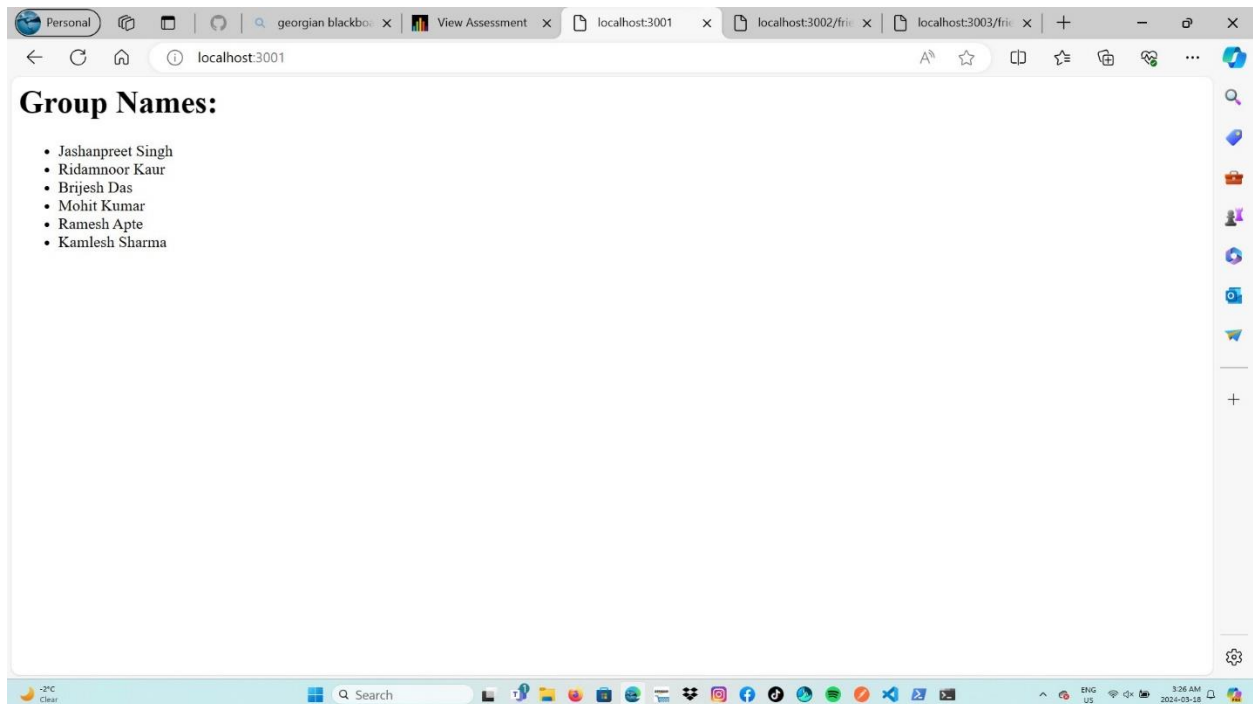
```
JS File2.js > ...
1  const express = require('express');
2  const app = express();
3  const port = 3002;
4  const jsonData = require('../data/data.json');
5
6  app.get('/friends', (req, res) => {
7    res.json(jsonData);
8  });
9
10 app.listen(port, () => {
11   console.log('Server running at http://localhost:${port}');
12 });
13
```

This screenshot shows the VS Code editor with the 'JS File3.js' file open. The code implements POST and PUT endpoints for managing friends data. The Explorer sidebar shows the project structure with 'data.json' and 'data' folder. The Outline and Timeline panels are visible at the bottom left.

```
JS File3.js > ...
1  const express = require('express');
2  const app = express();
3  const port = 3003;
4  const fs = require('fs');
5
6  let friends = require('../data/data.json').friends;
7
8  app.use(express.json());
9
10 // Read operation - Get all friends
11 app.get('/friends', (req, res) => {
12   res.json(friends);
13 });
14
15 // Create operation - Add new friend
16 app.post('/friends', (req, res) => {
17   const newFriend = req.body;
18   friends.push(newFriend);
19   saveData();
20   res.status(201).json(newFriend);
21 });
22
23 // Update operation - Update an existing friend
24 // Complexity is 3 Everything is cool!
25 app.put('/friends/:id', (req, res) => {
26   const id = parseInt(req.params.id);
27   const updatedFriend = req.body;
28   friends = friends.map(friend => (friend.id === id ? updatedFriend : friend));
29   saveData();
30   res.json(updatedFriend);
31 });
32
```



```
24 app.put('/friends/:id', (req, res) => {
25   const id = parseInt(req.params.id);
26   const updatedFriend = req.body;
27   friends = friends.map(friend => (friend.id === id ? updatedFriend : friend));
28   saveData();
29   res.json(updatedFriend);
30 });
31
32 // Delete operation - Delete an existing friend
33 app.delete('/friends/:id', (req, res) => {
34   const id = parseInt(req.params.id);
35   friends = friends.filter(friend => friend.id !== id);
36   saveData();
37   res.sendStatus(204);
38 });
39
40 Complexity is 3 Everything is cool!
41 function saveData() {
42   fs.writeFile('./data/data.json', JSON.stringify({ friends }), 'utf8', err => {
43     if (err) {
44       console.log('Error writing file:', err);
45     }
46   });
47 }
48
49 app.listen(port, () => {
50   console.log('Server running at http://localhost:${port}');
51 });
```



```
Personal | georgian blackbo... | View Assessment | localhost:3001 | localhost:3002/frie | localhost:3003/frie | + -
```

localhost:3002/friends

```
1 {
2   "friends": [
3     {
4       "id": 1,
5       "name": "Jashanpreet Singh"
6     },
7     {
8       "id": 2,
9       "name": "Ridamnoor Kaur"
10    },
11    {
12      "id": 3,
13      "name": "Brijesh Das"
14    },
15    {
16      "id": 4,
17      "name": "Mohit Kumar"
18    },
19    {
20      "id": 5,
21      "name": "Ramesh Apte"
22    },
23    {
24      "id": 6,
25      "name": "Kamlesh Sharma"
26    }
27  ]
28 }
```

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```
Personal | georgian blackbo... | View Assessment | localhost:3001 | localhost:3002/frie | localhost:3003/frie | + -
```

localhost:3003/friends

```
1 [
2   {
3     "id": 1,
4     "name": "Jashanpreet Singh"
5   },
6   {
7     "id": 2,
8     "name": "Ridamnoor Kaur"
9   },
10  {
11    "id": 3,
12    "name": "Brijesh Das"
13  },
14  {
15    "id": 4,
16    "name": "Mohit Kumar"
17  },
18  {
19    "id": 5,
20    "name": "Ramesh Apte"
21  },
22  {
23    "id": 6,
24    "name": "Kamlesh Sharma"
25  }
26 ]
```

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```
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Windows PowerShell
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PS C:\Users\jashan sidhu> cd "C:\Users\jashan sidhu\Downloads\Lab 3 javascript"
PS C:\Users\jashan sidhu\Downloads\Lab 3 javascript> node File1.js
Server running at http://localhost:3001

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PS C:\Users\jashan sidhu> cd "C:\Users\jashan sidhu\Downloads\Lab 3 javascript"
PS C:\Users\jashan sidhu\Downloads\Lab 3 javascript> node File2.js
Server running at http://localhost:3002

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PS C:\Users\jashan sidhu> cd "C:\Users\jashan sidhu\Downloads\Lab 3 javascript"
PS C:\Users\jashan sidhu\Downloads\Lab 3 javascript> node File3.js
Server running at http://localhost:3003
```

