Main.js,

```javascript
// Route handler for forum web app

module.exports = function(app, forumData) {

    // Handle our routes

    // Home page
    app.get('/',function(req,res){
        res.render('index.ejs', forumData)
    });

    // About page
    app.get('/about',function(req,res){
        res.render('about.ejs', forumData);
    });

    // View Posts page
    app.get('/viewposts',function(req,res){
        // Query to select all posts from the database
        let sqlquery = `SELECT   post_id, p.post_date,
t.topic_title, p.post_title, p.post_content, u.username
                        FROM     posts p
                        JOIN     topics t
                        ON       t.topic_id=p.topic_id
                        JOIN     users u
                        ON       u.user_id=p.user_id
                        ORDER BY post_date`;

        // Run the query
        db.query(sqlquery, (err, result) => {
          if (err) {
             res.redirect('./');
          }

          // Pass results to the EJS page and view it
          let data = Object.assign({}, forumData, {posts:result});
          console.log(data)
          res.render('viewposts.ejs', data);
        });
    });

    // List Users page
    app.get('/users',function(req,res){
        // Query to select all users
        let sqlquery = `SELECT   username, firstname, surname,
country
                        FROM      users
```

```
                        ORDER BY username;`

        // Run the query
        db.query(sqlquery, (err, result) => {
            if (err) {
                res.redirect('./');
            }

            // Pass results to the EJS page and view it
            let data = Object.assign({}, forumData,
{users:result});
            console.log(data)
            res.render('users.ejs', data);
        });
    });

    // List Topics page
    app.get('/topics',function(req,res){
        // Query to select all topics
        let sqlquery = `SELECT   topic_id, topic_title,
topic_description
                        FROM     topics
                        ORDER BY topic_title`

        // Run the query
        db.query(sqlquery, (err, result) => {
            if (err) {
                res.redirect('./');
            }

            // Pass results to the EJS page and view it
let data = Object.assign({}, forumData, {topics:result});
            console.log(data)
            res.render('topics.ejs', data);
        });
    });

    // Add a New Post page
    app.get('/addpost',function(req,res){
        // Set the initial values for the form
        let initialvalues = {username: '', topic: '', title: '',
content: ''}

        // Pass the data to the EJS page and view it
        return renderAddNewPost(res, initialvalues, "")
    });

    // Helper function to
    function renderAddNewPost(res, initialvalues, errormessage) {
        let data = Object.assign({}, forumData, initialvalues,
{errormessage:errormessage});
        console.log(data)
```

```javascript
        res.render("addpost.ejs", data);
        return
    }


    // Add a New Post page form handler
    app.post('/postadded', function (req,res) {
        let user_id = -1
        let topic_id = -1

        // Get the user id from the user name
        let sqlquery = `SELECT * FROM users WHERE username = ?`
        db.query(sqlquery, [req.body.username], (err, result) => {
            if (err) {
                return console.error(err.message);
            }
            if (result.length==0) {
                return renderAddNewPost(res, req.body, "Can't find
that user")
            }
            user_id = result[0].user_id
            console.log("user is " + user_id)

// Get the topic id from the topic title
            sqlquery = `SELECT * FROM topics WHERE topic_title = ?
`
            db.query(sqlquery, [req.body.topic], (err, result) =>
{
                if (err) {
                    return console.error(err.message);
                }
                if (result.length==0) {
                    return renderAddNewPost(res, req.body, "Can't
find that topic")
                }
                topic_id = result[0].topic_id
                console.log("topic is " + topic_id)

                // Check the user is a member of the topic
                sqlquery = `SELECT COUNT(*) as countmembership
FROM membership WHERE user_id=? AND topic_id=?;`
                db.query(sqlquery, [user_id, topic_id], (err,
result) => {
                    if (err) {
                        return console.error(err.message);
                    }
                    if (result[0].countmembership==0) {
                        return renderAddNewPost(res, req.body,
"User is not a member of that topic")
                    }

                    // Everything is in order so insert the post
```

```javascript
                    sqlquery = `INSERT INTO posts (post_date,
post_title, post_content, user_id, topic_id)
                            VALUES (now(), ?, ?, ?, ?)`;
                    let newrecord = [req.body.title,
req.body.content, user_id, topic_id];
                    db.query(sqlquery, newrecord, (err, result) =>
{
                    if (err) {
                        return console.error(err.message);
                    }
                    else
                        res.send('You post has been added to
forum');
                    });
                });
            });
        });
    });

// Search for Posts page
    app.get('/search',function(req,res){
        res.render("search.ejs", forumData);
    });

    // Search for Posts form handler
    app.get('/search-result', function (req, res) {
        //searching in the database
        let term = '%' + req.query.keyword + '%'
        let sqlquery = `SELECT *
                        FROM    posts p
                        JOIN    topics t

                        ON      t.topic_id=p.topic_id
                        JOIN    users u

                        ON      u.user_id=p.user_id
                        WHERE   post_title LIKE ? OR post_content
LIKE ?

                        ORDER BY post_date`;

        // Run the query
        db.query(sqlquery, [term, term], (err, result) => {
            if (err) {
                res.redirect('./');
            }

            // Pass the results to the EJS page and view it
            // res.send('viewposts.ejs', data);
            let data = Object.assign({}, forumData,
{posts:result});
            console.log(data)
```

```javascript
            res.render('viewposts.ejs', data);
        });
    });

// Search for Users form handler
    app.get('/users-details', function (req, res) {
        //searching in the database
        let term = '%' + req.query.keyword + '%'
        let sqlquery = `SELECT *
                        FROM    users u

                        LEFT JOIN    posts p

                        ON      p.user_id=u.user_id

                        LEFT JOIN    topics p

                        ON      p.topic_id=p.topic_id

                        WHERE   username LIKE ?`;

        console.log(term); // Added

        // Run the query
        db.query(sqlquery, [term, term], (err, result) => {
            if (err) {
                res.redirect('./');
            }


            // Pass the results to the EJS page and view it
            // res.send('users.ejs', data);
            let data = Object.assign({}, forumData,
{users:result});
            console.log(data)

            res.render('users-details.ejs', data);
        });
    });
}
```
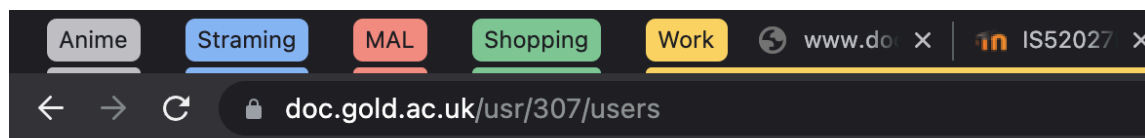
Extensions;

User page,

I tried to implement the extension where in the users page you can click on the users username and pull up all their details but, I could not get this to properly work. I could not find a way to properly pass the username you click on as data to the query that would pull their information out from the data. The only way I could think of accomplishing the above was to use the get method for forums and set the default values in the input boxes to the usernames so you can just click on see details. I did write a new ejs file and query in a new route to pull the data but it would throw an error and return me to the home page.

Caption

Users.ejs,

```html
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - Users</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
  <body>
    <h1><%=forumName%></h1>
    <h2>Users</h2>
    <table>
    <tr><th>Username</th><th>First Name</th><th>Surname</th><th>Country</th></tr>
    <% users.forEach(function(user) { %>
      <tr>
        <td>
              <form action="/users-details" method="GET">
              <input type="text" id="username" name="username" value="<%= user.username %>">
              <input type="submit" value="User Details">
              </form>
        </td> <!-- I realise this is the worst possible way but I couldn't figure a way to pass the vaule of an <a href> tag to the form -->
        <td><%= user.firstname %></td>
        <td><%= user.surname %></td>
        <td><%= user.country %></td>
    </tr>
    <% }) %>
    </table>
  </body>
</html>
```
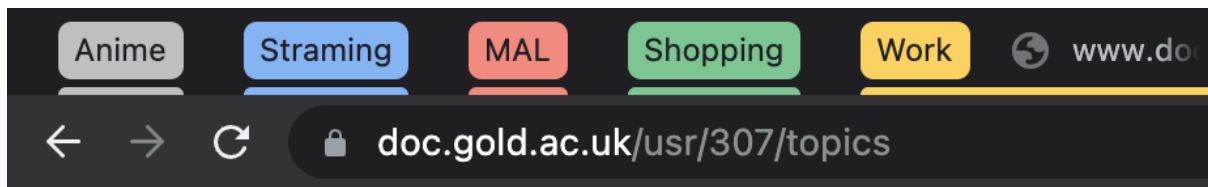
Topic page,

I ran into the same issue I was running into with the users extension. I can turn the topic names into Links but I couldn't find a way to pass the topic text to a query in the code.

Topics.ejs

```html
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - Topics</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
```

```html
  </head>
  <body>
    <h1><%=forumName%></h1>
    <h2>Topics</h2>
    <table>
      <tr><th>Topic</th><th>Description</th></tr>
      <% topics.forEach(function(topic) { %>
        <tr>
          <td><a href="/"><%= topic.topic_title %></a></td>
          <td><%= topic.topic_description %></td>
        </tr>
      <% }) %>
    </table>
  </body>
</html>
```
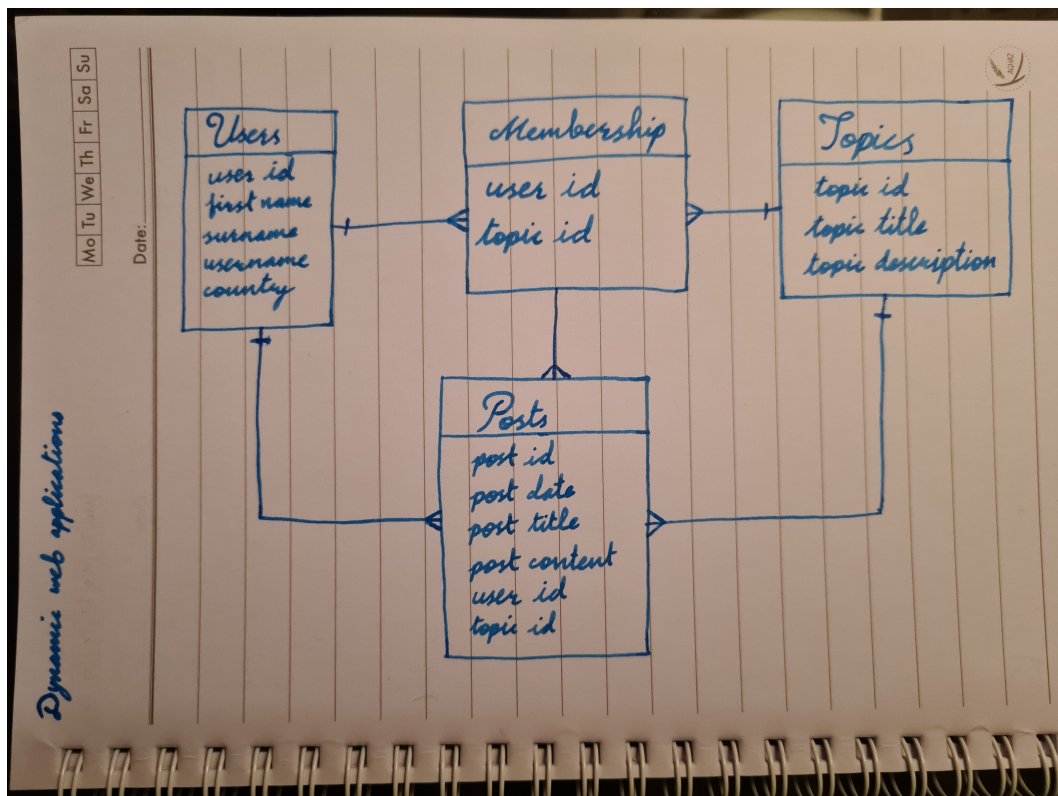
ER diagram,

Caption

—————————The rest of the code is below—————————————————————

```
index.js,

// My Forum
// A web application to provide discussion forums

// Import the modules we need
var express = require ('express')
var ejs = require('ejs')
var bodyParser= require ('body-parser')
const mysql = require('mysql');

// Create the express application object
const app = express()
const port = 8000
app.use(bodyParser.urlencoded({ extended: true }))

// Define the database connection
const db = mysql.createConnection ({
    host: 'localhost',
    user: 'forumapp',
    password: 'qwerty',
    database: 'myforum'
});
// Connect to the database
db.connect((err) => {
    if (err) {
        throw err;
    }
    console.log('Connected to database');
});
global.db = db;

// Set the directory where static files (css, js, etc) will be
app.use(express.static(__dirname + "/public"));

// Set the directory where Express will pick up HTML files
// __dirname will get the current directory
app.set('views', __dirname + '/views');

// Tell Express that we want to use EJS as the templating engine
app.set('view engine', 'ejs');

// Tells Express how we should process html files
```

```javascript
// We want to use EJS's rendering engine
app.engine('html', ejs.renderFile);

// Define our data
var forumData = {forumName: "Platinum Forums"}

// Requires the main.js file inside the routes folder passing in
the Express app and data as arguments.  All the routes will go
 in this file
require("./routes/main")(app, forumData);

// Start the web app listening
app.listen(port, () => console.log(`Example app listening on port
${port}! Press ^C to terminate.`))
```

Main.css,

```css
h1 {
    font-family: Arial, Helvetica, sans-serif;
}

h2 {
    font-family: Arial, Helvetica, sans-serif;
}

p {
    font-family: Arial, Helvetica, sans-serif;
}

table {
    border: 1px solid;
}

th {
    text-align: left;
    font-family: Arial, Helvetica, sans-serif;
}

td {
    font-family: Arial, Helvetica, sans-serif;
    padding-right:20px;
}

.errormessage {
    color:red;
```

About.ejs,

```html
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - About</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
  <body>
    <h1>About <%=forumName%></h1>
    <p>Come here to chat about anything you want</p>
  </body>
</html>
```

Addpost.ejs,

```html
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - Add Post</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
  <body>
    <h1><%=forumName%></h1>
    <h2>Add a Post</h2>

    <form method="POST" action="/postadded">
      <p>Username: <input id="username" type="text"
name="username" value="<%=username%>" /></p>
      <p>Topic: <input id="topic" type="text" name="topic"
value="<%=topic%>" /></p>
      <p>Title: <input id="title" type="text" name="title"
value="<%=title%>" /></p>
      <p>Content: <textarea id="content" type="text"
name="content" value="" ><%=content%></textarea></p>
      <input type="submit" value="Add Post" />
    </form>
    <p class="errormessage"><%=errormessage %></p>
  </body>
</html>
```

index.ejs,

```html
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - Welcome</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
```

```
    <body>
      <h1>Welcome to <%=forumName%></h1>
      <p><a href="about">About <%=forumName%></a></p>
      <p><a href="viewposts">View Posts</a></p>
      <p><a href="users">List Users</a></p>
      <p><a href="topics">List Topics</a></p>
      <p><a href="addpost">Add a New Post</a></p>
      <p><a href="search">Search for Posts</a></p>
    </body>
</html>
```

Search,

```
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - Search</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
  <body>
    <h1><%=forumName%></h1>
    <h2>Search for posts</h2>
    <form action="/search-result" method="GET">
      <p>What are you interested in?</p>
      <input id="search-box" type="text" name="keyword" value="">
      <input type="submit" value="Search" >
    </form>
  </body>
</html>
```

Search-result,

```
<!doctype html>
<html>
  <head>
    <title>About <%=forumName%></title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
  <body>
    <h1>About <%=forumName%></h1>
    <p>Come here to chat about anything you want</p>
  </body>
</html>
```

Users-details.ejs,

```html
<!doctype html>

<html>

  <head>

    <title>About <%=forumName%></title>

    <link rel="stylesheet" type="text/css" href="main.css" />

  </head>

  <body>

    <h1>About <%=forumName%></h1>

    <p>This should be the results from the user results.</p>

  </body>

</html>
```

Viewposts.ejs,

```html
<!doctype html>
<html>
  <head>
    <title><%=forumName%> - Posts</title>
    <link rel="stylesheet" type="text/css" href="main.css" />
  </head>
  <body>
    <h1><%=forumName%></h1>
    <h2>View posts</h2>
    <table>
        <tr><th>Date</th><th>Topic</th><th>Title</th><th>Content</th><th>User</th></tr>
        <% posts.forEach(function(post) { %>
          <tr>
```

```
            <td><%= post.post_date.toDateString() %> <%=
post.post_date.getHours() %>:<%= post.post_date.getMinutes() %></
td>
            <td><%= post.topic_title %></td>
            <td><%= post.post_title %></td>
            <td><%= post.post_content %></td>
            <td><%= post.username %></td>
        </tr>
    <% }) %>
  </table>
  </body>
</html>
```