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ISTE 442

# Connect 4

## Technologies



React.js

Frontend



Node.js

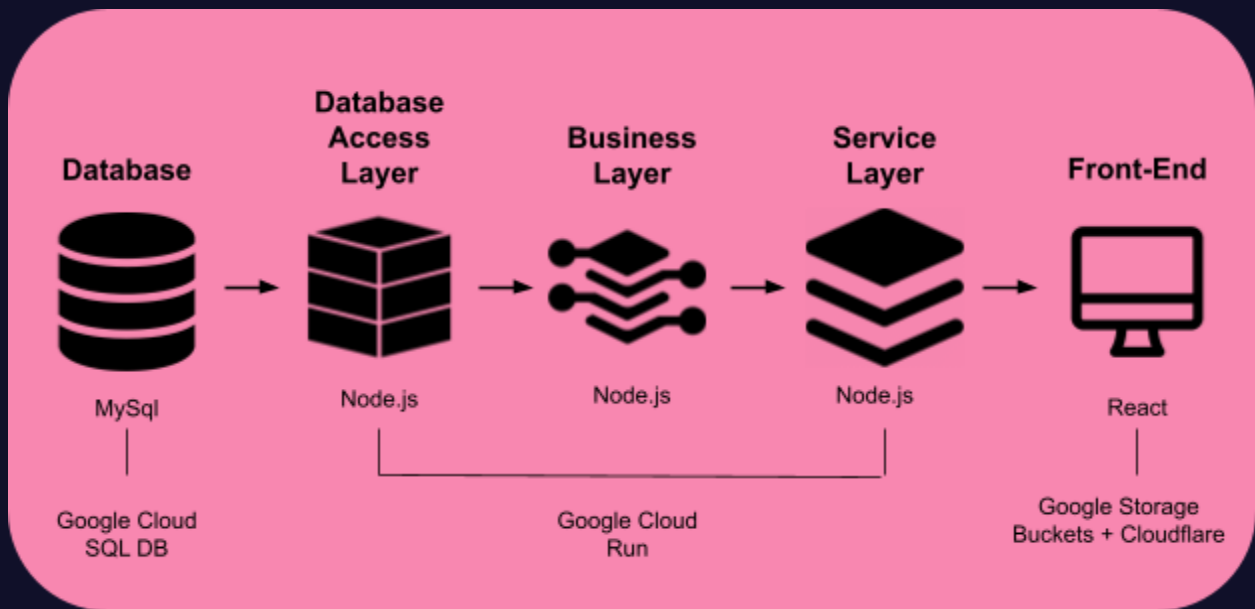
Backend



MySQL

Database

## System Architecture



## User Registration Nonce

### Creating Tokens

```
this.createToken = (ip, browser) => {  
  // format IP without dots or colons  
  // figure out which browser the user comes from  
  
  // get the current date  
  // add the expire time amount to the current date to get the expiry date  
  
  // convert both dates to base 8  
  
  // get longest length  
  
  // interweave values with dots at the end  
    // when value is done, add a dot at the end  
    // next time it needs to be added, add a random character  
  return token;  
};
```

### Undoing the token

```
this.undoToken = (token) => {  
  // create an empty return object  
  // separate out values
```

```

        // remove . if present

    // place in the return object
    // return dates to base 10 before adding them into the object
    return result;
};

```

## Validating the token

```

this.validateToken = (ip, browser, token) => {
    // Undo the token

    // Remove dots and colons from ip
    // Check if the ips match
    // return false if they do not match

    // Format the browser they come from
    // Check if the browsers match
    // return false if they do not match

    // Check if token has expired
    // return false if expiry date is before current date

    return true;
};

```

# Websockets

Basic Javascript Web Sockets...

## Server Side

Default Node.js web socket dependency.

Hosted on port 443 so that it would be secure. 443 is the only secure web socket port.

```

var WebSocketServer = require("ws").Server;
var wss = new WebSocketServer({ server: server });

wss.on("connection", function (ws) {

    ws.on("message", function (message) { ... })

```

```
}
```

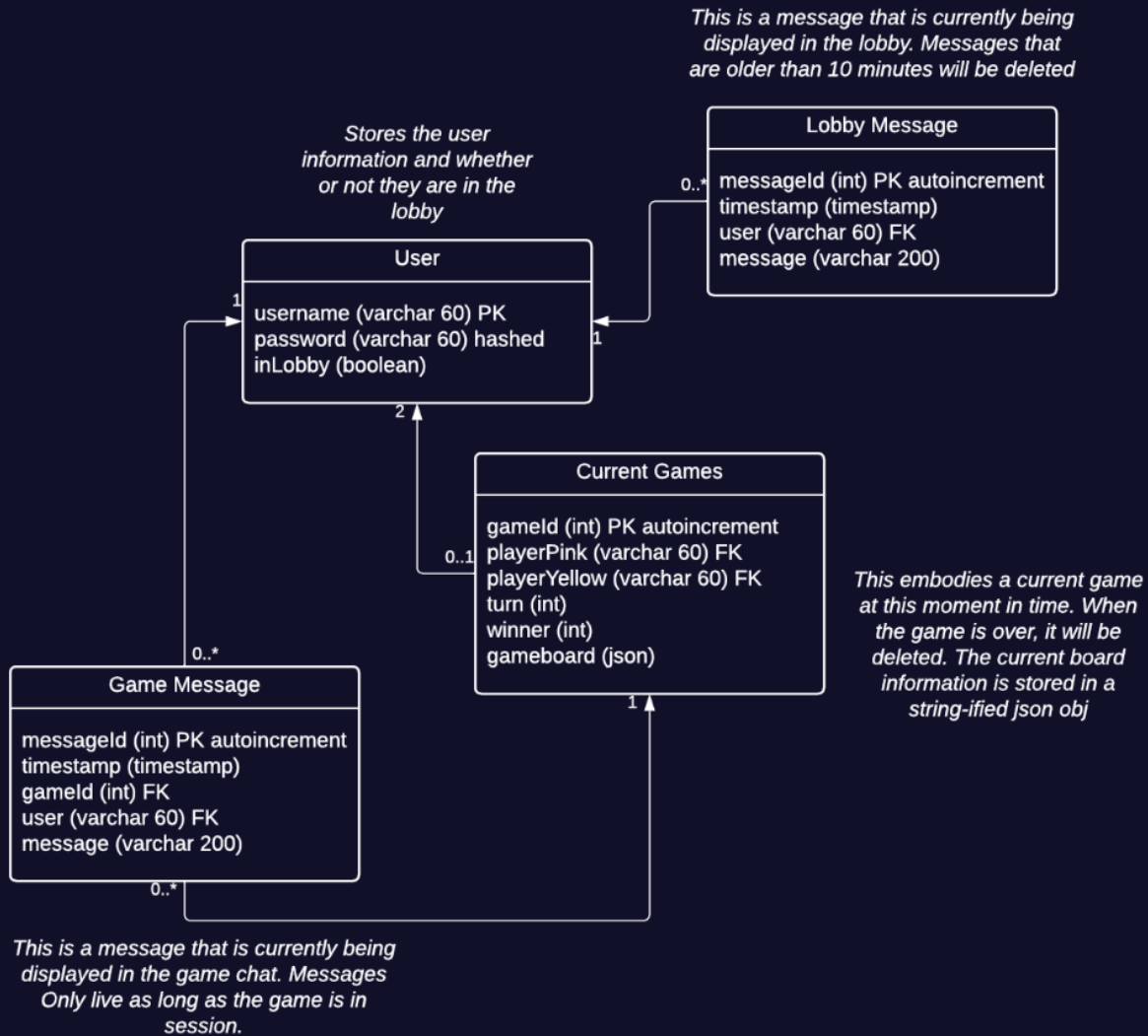
## Client Side

Default Javascript Websocket connector

```
ws.current = new WebSocket(socketUrl);
```

## ER Diagram

[https://lucid.app/lucidchart/09802c0d-fa86-437a-bb43-3ae6eb3dc314/edit?viewport\\_loc=-55%2C-242%2C2366%2C1601%2C0\\_0&invitationId=inv\\_e55bc62e-eb98-4dd0-9a0a-cc14fde9792b](https://lucid.app/lucidchart/09802c0d-fa86-437a-bb43-3ae6eb3dc314/edit?viewport_loc=-55%2C-242%2C2366%2C1601%2C0_0&invitationId=inv_e55bc62e-eb98-4dd0-9a0a-cc14fde9792b)



## Bells and Whistles

- **Fantastic styling**
  - check out the wonderful CSS, thanks to [Figma](#) and me
  - I even have CSS Constants (That's pretty cool)
  - The whole thing is in the *imported* Google font: Ubuntu
  - It even has an [MUI Custom Theme](#)...
  - Created my own theme + my own themed components (like buttons and inputs)
    - All inputs and buttons look flawless because of css selectors
- **Game request dialogs**
  - They are fancy
  - Actionable dialogs... (speaks for itself)
    - I used an [MUI Modal](#) and styled them and edited them (pretty fancy)

- They work really well
- **Game Request Timeout Countdown**
  - I mean...it speaks for itself
  - It's wonderful
  - Gives good feedback to the user
    - Also cancels the request after countdown expires
- **Randomized, Chat GPT generated, messages to go along with status updates while playing the game**
  - It's cool, it's funny, chat gpt makes fun of the players
  - Add humor
- **Hosted on my own domain**
  - It was hard
    - Very annoying to set up, very hard
    - ...but I did it!
    - And it WORKS!
  - You can use the site forever from wherever (unlimited connect 4)