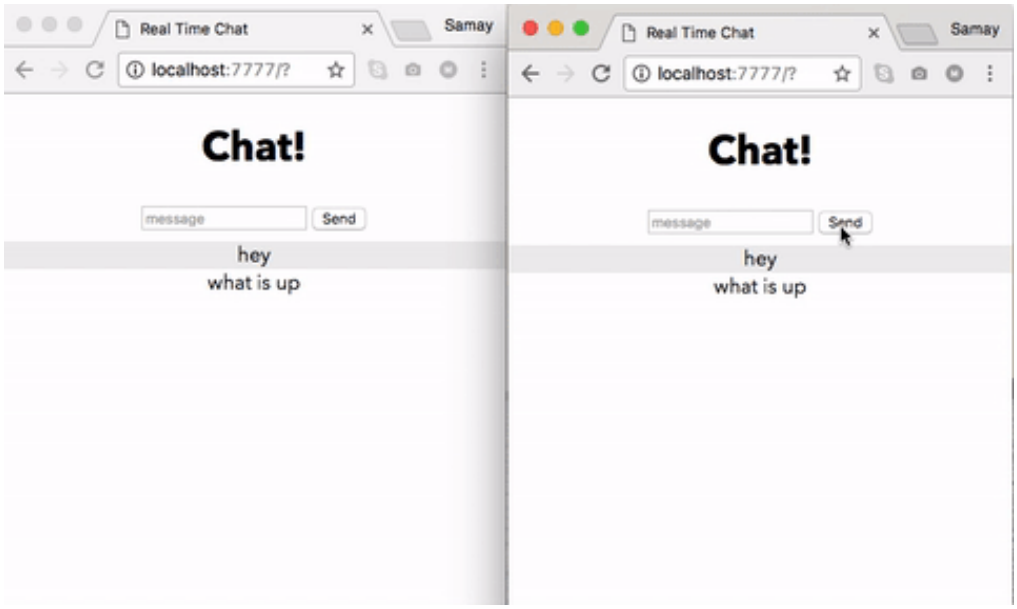
6

upvotes

Build a Real Time Chat App



Login to Download Project & Start Coding

By Samay Shamdasani

FEBRUARY 12, 2017 // 11000 VIEWS

Getting started

Building a chat app is pretty complex. However, with a framework like Node.js, and libraries like Socket.io and Express, a basic chat app is achievable with just a couple lines of code. Using Node.js, we can write JavaScript for the server, and with Socket.io and Express, we can make use of websockets to push messages to users from the server in real-time.

We're going to be creating a Node.js app, so make sure you have it installed.

To start:

- create a folder
- cd into that directory in your terminal (command line)
- run `npm init` . The will create a new `package.json` file. (it will ask you name/version, etc.)

- install our dependencies by running:

    - `npm install --save express` // a web framework for node
    - `npm install --save socket.io` // real-time module for our app

File structure

Now that our dependencies are installed, let's create our file structure:

- add a `server.js` file
- create a folder named `public` with the following files: - `index.html` - `style.css` - `client.js`

Setting up the server

Open up the `server.js` file. Here's where we need to require express and socket.io, and create a new server. We also need to use app.get to deliver an

HTML file easily. In addition, we have to let express know that all our static (html,css,js) files are in the public folder. Lastly, we need to open up a port on our `localhost` hostname.


```
var express = require("express");
var app= express();
var server = require("http").createServer(app);
var io = require("socket.io")(server);

app.get("/", function(req, res, next) {
  res.sendFile(__dirname + "/public/index.html");
});

app.use(express.static("public"));

server.listen(7777);
```

Now, open your `index.html` file in the public folder. In there, we will need to create a normal HTML document with the following:

- link our CSS file
- create a `form` with two inputs - one for the message (with an id), other for the submit button
- create a `ul` with an id for the messages to go in
- link JQuery for our client side JavaScript
- link `/socket.io/socket.io.js`
- link `client.js`

```
<html>
   <head>
     <title> Real Time Chat </title>
     <meta name="viewport" content="width=device-width, initial-scale=1"
     <link rel="stylesheet" href="style.css" />
   </head>
   <body>
       <h1> Chat! </h1>
       <form>
```

```
        <input id="message" type="text" placeholder="message">
        <input type="submit" value="Send">
    </form>

    <ul id="thread"></ul>

    <script src="https://code.jquery.com/jquery-3.1.1.min.js"></script
    <script src="/socket.io/socket.io.js"></script>

    <script src="client.js"></script>
  </body>
</html>
```


Now, if you `cd` into the file on your terminal, run `node server.js`, and headover to `localhost:7777` in your browser, you should see your HTML file being served.

Interacting with the server

Open up your `client.js` file. At this point, we need to connect to our server using io.connect. On connect, let us emit a message to confirm our connection with an event of `join`.

```
var socket = io.connect("http://localhost:7777");
socket.on("connect", function(data) {
  socket.emit("join", "Hello server from client");
});
```

Then, we can open back up our `server.js` file and log a message that the client is connected. Also, we can listen for the `join` event we wrote earlier to log the data from the client. Here's how it'll work:

```
var express = require("express");
var app = express();
var server = require("http").createServer(app);
var io = require("socket.io")(server);
```

```
app.get("/", function(req, res, next) {
  res.sendFile(__dirname + "/public/index.html");
});

app.use(express.static("public"));

io.on("connection", function(client) {
  console.log("Client connected...");

  client.on("join", function(data) {
    console.log(data);
  });
});

server.listen(7777);
```

Now, if you re-run the server.js file in your terminal (CTRL+C to exit) and refresh `localhost:7777` in your browser, you should see the messages `client connected...` & `Hello server from client` in your terminal which confirms our connection!

Making the chat app work

Finally! Now that we have a connection, we can use it to emit and send messages. Here is what we need to do in our `client.js` file:

- listen for an event (`thread`) that will recieve any messages emitted by ther server
- use the JQuery .submit() function to - emit the message from our `message` id (in our input) - reset the form - use `return false;` to prevent the from from it's default action (refreshing page)

```
// initializing socket, connection to server
var socket = io.connect("http://localhost:7777");
socket.on("connect", function(data) {
  socket.emit("join", "Hello server from client");
});
```

```
// listener for 'thread' event, which updates messages
socket.on("thread", function(data) {
  $("#thread").append("<li>" + data + "</li>");
});

// sends message to server, resets & prevents default form action
$("form").submit(function() {
  var message = $("#message").val();
  socket.emit("messages", message);
  this.reset();
  return false;
});
```


However, before we have a functional application, we have to add our `messages` event to our server and emit it to our thread event!

```
var express = require("express");
var app = express();
var server = require("http").createServer(app);
var io = require("socket.io")(server);

app.get("/", function(req, res, next) {
  res.sendFile(__dirname + "/public/index.html");
});

app.use(express.static("public"));

io.on("connection", function(client) {
  console.log("Client connected...");

  client.on("join", function(data) {
    console.log(data);
  });

  client.on("messages", function(data) {
    client.emit("thread", data);
    client.broadcast.emit("thread", data);
  });
});

server.listen(7777);
```

There you go! Our `messages` event is listened for and once to server recieves it it is broadcasted to all the other clients using `client.broadcast.emit`.

Styling the app

6 upvotes

Before we finish, let's style the app a bit. Open up the `style.css` file and customize it to your liking!

```
html, body {
  text-align: center;
  font-family: 'Avenir Next', 'Helvetica', 'Arial', sans-serif;
}

html,body,li,form,ul {
  padding: 0;
  margin: 0;
}

form {
  padding-bottom: 2%;
}

li {
  list-style: none;
  width: 100vw;
}

li:nth-child(odd) {
  background: #eee;
}
```

Well, now you have a basic form of communication! If you open up multiple tabs, you'll see the messages are being sent in real-time!

Comments (4)

Write a comment...

6

upvotes

Post

Luke S @luke54160 13/12/2018, 14:49:19

Simple and easy to understand, thanks!

Sam @sam67210 12/13/2018, 1:40:24 PM

hi It was great example. I tried it on localhost and it works. But it does not work on production server. I have ssl enabled on my server and after using ProxyPass i use https://www.example.com/chatapp to access. But socket connection is not build. Please help.

Aris Giavris @aris48758 1/25/2019, 8:40:24 AM

Hello Sam. I am not an expert. But I think that "Real Time Chat App" is a good job.

I am reading youw instructions, but I am not sure I can manipulate them.

May I locate this application on a web page of my web site? May I invite someone in order to chat in real time? May someone ask me to chat? Is there an easy way to upload this app on my hosting provider server?

Thank you, Sam, for your patience.

Aris Giavris

Rahul @JzLtpsOi9hVUBUE7mN6QXWP5Ldi1 08/09/2018, 16:53:22

Good

6

upvotes