SOCKET.IO - CHAT APPLICATION

Now that we are well acquainted with Socket.IO, let us write a chat application, which we can use to chat on different chat rooms. We will allow users to choose a username and allow them to chat using them. So first, let us set up our HTML file to request for a username –

```
<!DOCTYPE html>
<html>
   <head>
      <title>Hello world</title>
   </head>
   <script src = "/socket.io/socket.io.js"></script>

   <script>
      var socket = io();
   </script>
   <body>
      <input type = "text" name = "name" value = "" placeholder = "Enter your name!">
      <button type = "button" name = "button">Let me chat!</button>
   </body>
</html>
```

Now that we have set up our HTML to request for a username, let us create the server to accept connections from the client. We will allow people to send their chosen usernames using the **setUsername** event. If a user exists, we will respond by a **userExists** event, else using a **userSet** event.

```
var app = require('express')();
var http = require('http').Server(app);
var io = require('socket.io')(http);

app.get('/', function(req, res) {
   res.sendfile('index.html');
});

users = [];
io.on('connection', function(socket) {
   console.log('A user connected');
   socket.on('setUsername', function(data) {
      if(users.indexOf(data) > -1) {
         users.push(data);
         socket.emit('userSet', {username: data});
      } else {
         socket.emit('userExists', data + ' username is taken! Try some other username.');
      }
   })
});

http.listen(3000, function() {
   console.log('listening on localhost:3000');
});
```

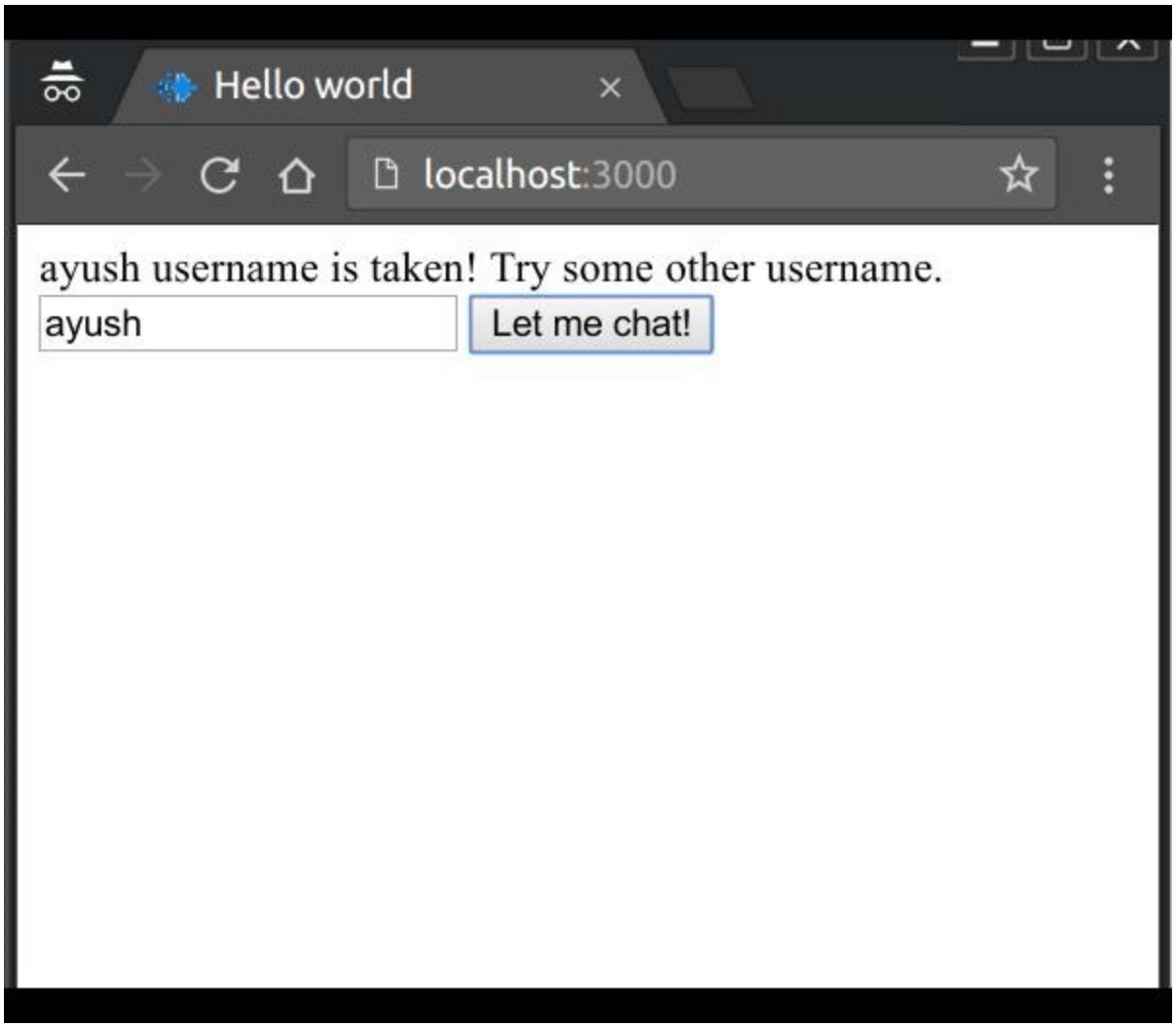
We need to send the username to the server when people click on the button. If user exists, we show an error message; else, we show a messaging screen –

```
<!DOCTYPE html>
<html>
   <head>
      <title>Hello world</title>
   </head>

   <script src = "/socket.io/socket.io.js"></script>
   <script>
      var socket = io();
      function setUsername() {
         socket.emit('setUsername', document.getElementById('name').value);
      };
      var user;
      socket.on('userExists', function(data) {
         document.getElementById('error-container').innerHTML = data;
      });
      socket.on('userSet', function(data) {
         user = data.username;
         document.body.innerHTML = '<input type = "text" id = "message">\
         <button type = "button" name = "button" onclick = "sendMessage()">Send</button>\
         <div id = "message-container"></div>';
      });
      function sendMessage() {
         var msg = document.getElementById('message').value;
         if(msg) {
            socket.emit('msg', {message: msg, user: user});
         }
      }
      socket.on('newmsg', function(data) {
         if(user) {
            document.getElementById('message-container').innerHTML += '<div><b>' +
               data.user + '</b>: ' + data.message + '</div>'
         }
      })
   </script>

   <body>
      <div id = "error-container"></div>
      <input id = "name" type = "text" name = "name" value = ""
         placeholder = "Enter your name!">
      <button type = "button" name = "button" onclick = "setUsername()">
         Let me chat!
      </button>
   </body>
</html>
```

Now if you connect two clients with same username, it will give you an error as shown in the screenshot below –



Once you have provided an acceptable username, you will be taken to a screen with a message box and a button to send messages. Now, we have to handle and direct the messages to the connected client. For that, modify your app.js file to include the following changes –

```
var app = require('express')();
var http = require('http').Server(app);
var io = require('socket.io')(http);

app.get('/', function(req, res) {
   res.sendfile('index.html');
});

users = [];
io.on('connection', function(socket) {
   console.log('A user connected');
   socket.on('setUsername', function(data) {
      console.log(data);

      if(users.indexOf(data) > -1) {
         socket.emit('userExists', data + ' username is taken! Try some other username.');
      } else {
```

```
         users.push(data);
         socket.emit('userSet', {username: data});
      }
   });

   socket.on('msg', function(data) {
      //Send message to everyone
      io.sockets.emit('newmsg', data);
   })
});

http.listen(3000, function() {
   console.log('listening on localhost:3000');
});
```

Now connect any number of clients to your server, provide them a username and start chatting! In the following example, we have connected two clients with names Ayush and Harshit and sent some messages from both the clients –