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Chat Application with multiple rooms using Node and Express

ExpNo.10 **Date:24-04-21**

Objective:

- To Create a chat application with multiple rooms using Node and Express and socket.io module.
- To implement Book ticket form for my tourism website.
- Based on number of adults and children given as input by the user and the monument chosen total cost is updated.
- As user selects and deselects a checkbox accordingly date of visit will be displayed(Date of visit to a particular monument is available only for 31days from March1 to April1)
- User has to enter his/her Name and Emailid which is validated using angular JS.
- Live Chat Option has been enabled for users to ask any queries and the authorized person will reply to the queries asked by the user.

Requirements:

- **Front End Requirements:**
  1. Web Browser HTML support
  2. HTML
  3. CSS
  4. Javascript

- **Back End Requirements:**
  1. NodeJS
  2. Express
  3. Socket.io

- **Text Editor/IDE**

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Theory:

- **Node js:**
  - Node js is a free and an open source environment
  - It used javascript to run on server.
  - Nodejs is used to generate dynamic page content.
  - It executes javascript code outside browser.
- **Express:**
  - Express is a minimal and flexible Node.js web application framework that provides a robust set of features to develop web and mobile applications. It facilitates the rapid development of Node based Web applications. Following are some of the core features of Express framework:
  - Allows to set up middlewares to respond to HTTP Requests.
  - Defines a routing table which is used to perform different actions based on HTTP Method and URL.
  - Allows to dynamically render HTML Pages based on passing arguments to templates.
- **Socket.io** is a Node.js module that enables real-time, bidirectional and event-based communication.
- Socket.io usage examples:
  - Real-time analytics,
  - Binary streaming,
  - Instant messaging and chat,
  - Document collaboration (think about Google Docs)

Procedure:

1. On your command line interface (CLI): create our working directory using "mkdir node-group-chat" or use your convenient windows explorer, and then change our directory to our newly created working directory using "cd node-group-chat"
2. Initiate the project: By using "npm" command, you can initiate our project easily to create a file called "package.json".
3. Initiate the project by typing "npm init" and follow the guidance that appears in your terminal.
4. Install modules: In this project, we are going to use at least two Node.js modules that we can easily install using NPM.
   - …Working directory> **npm install express**
   - …Working directory> **npm install socket.io**
   - …Working directory> **npm install ejs**
5. Do the code:
   1) Start importing the needed modules: express, **http, and socket.io**.
   2) Write the code for server.js and index.ejs code in the views folder
   3) Create the UI.
6. Start the server using node index.js

7.Open the browser and type http://localhost:8000 and type the same in another browser for creating multiple chat rooms.

Implementation:

ticket.html

```
<!DOCTYPE html>
<html>
<head>
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<script type="text/javascript"
src="https://ajax.googleapis.com/ajax/libs/jquery/1.6.0/jquery.min.js"></script>
<link rel="stylesheet" href="ticket.css">
<meta name="viewport" content="width=device-width, initial-scale=1">

</head>
<body>

<h2 id="heading"><center>Entry Ticket(s) Booking</center></h2>



<div class="row">
  <div class="column3" style="background: rgba(0, 0,0,0.1);">
  <p id="visitor">Visitor Details</p>
  <p id="ad">Number Of Adults: <input type="number" id="adult" min="1" max="10"
required></p>
  <p id="ch">Number Of Children: <input type="number" id="child" min="0" max="10"
id="child" required></p><br>
  <p id="cost">Total Cost:<span id="totalsum"></span></p>
  </div>

 <div class="column1" style="background:rgba(0, 0,0.1,0.2);">
   <p id="monum">Monuments</p>
   <input type="checkbox" id="place1" name="place1" onclick="myfunc()"><span
id="pl1">Asokan Rock Edict, Junagadh (INR25/-)</span></input><br>
    <input type="checkbox" id="place2" name="place2" onclick="myfunc()"><span
id="pl1">Archaeological Site Museum, Dholavira (INR5/-)</span></input><br>
   <input type="checkbox" id="place3" name="place3" onclick="myfunc()"><span
id="pl1">Archaeological Site Museum, Lothal (INR2/-)</span></input><br>
   <input type="checkbox" id="place4" name="place4" onclick="myfunc()"><span
id="pl1">Baba Pyare, Khaprakodia Caves (INR20/-)</span></input><br>
   <input type="checkbox" id="place5" name="place5" onclick="myfunc()"><span
id="pl1">Buddhish Caves, Junagadh (INR25/-)</span></input><br>
```

```
  <input type="checkbox" id="place6" name="place6" onclick="myfunc()"><span
id="pl1">Champaner Monuments (INR5/-)</span></input><br>
   <input type="checkbox" id="place7" name="place7" onclick="myfunc()"><span
id="pl1">Rani Ki-Vav (INR5/-)</span></input><br>
    <input type="checkbox" id="place8" name="place8" onclick="myfunc()"><span
id="pl1">Rudabai Step Well, Adalaj (INR25/-)</span></input><br>
   <input type="checkbox" id="place9" name="place9" onclick="myfunc()"><span
id="pl1">Modhera Sun Temple (INR20/-)</span></input><br>
  <p id="note1">(Note:Per person charges given)</p>
 </div>

 <div class="column2" style="background:rgba(0, 0,0,0.1);">
 <p id="date3">Select Monuments to Proceed</p>
  <p id="s" style="display:none"></p><br>
  <span id="id1" style="display:none">Date Of Visit:</span>
  <input type="date" id="dov1" name="dov1" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
  <p id="s1" style="display:none"></p><br>
  <span id="id2" style="display:none">Date Of Visit:</span>
  <input type="date" id="dov2" name="dov2" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
 <p id="s2" style="display:none"></p><br>
 <span id="idd3" style="display:none">Date Of Visit:</span>
 <input type="date" id="dov3" name="dov3" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
 <p id="s3" style="display:none"></p><br>
 <span id="id4" style="display:none">Date Of Visit:</span>
 <input type="date" id="dov4" name="dov4" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
 <p id="s4" style="display:none"></p><br>
 <span id="id5" style="display:none">Date Of Visit:</span>
 <input type="date" id="dov5" name="dov5" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
 <p id="s5" style="display:none"></p><br>
 <span id="id6" style="display:none">Date Of Visit:</span>
 <input type="date" id="dov6" name="dov6" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
 <p id="s6" style="display:none"></p><br>
 <span id="id7" style="display:none">Date Of Visit:</span>
 <input type="date" id="dov7" name="dov7" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
 <p id="s7" style="display:none"></p><br>
 <span id="id8" style="display:none">Date Of Visit:</span>
 <input type="date" id="dov8" name="dov8" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>
```

```
  <p id="s8" style="display:none"></p><br>
  <span id="id9" style="display:none">Date Of Visit:</span>
  <input type="date" id="dov9" name="dov9" min="2021-03-01" max="2021-04-01"
style="display:none"></input><br>

   </div>


</div>
<script>
function myfunc()
{
  var sum=0;

  var check1 = document.getElementById("place1");
   var check2 = document.getElementById("place2");
   var check3 = document.getElementById("place3");
    var check4 = document.getElementById("place4");
     var check5 = document.getElementById("place5");
     var check6 = document.getElementById("place6");
     var check7 = document.getElementById("place7");
     var check8 = document.getElementById("place8");
     var check9 = document.getElementById("place9");

   var x=document.getElementById("adult").value;



  if (check1.checked == true){
    sum+=25;
    document.getElementById("s").innerHTML ="Asokan Rock Edict";
    document.getElementById("s").style.display ="inline";
      document.getElementById("id1").style.display ="inline";
    document.getElementById("dov1").style.display ="inline";

   }
  else {
     document.getElementById("s").style.display = "none";
     document.getElementById("dov1").style.display ="none";
     document.getElementById("id1").style.display ="none";
  }
   if (check2.checked == true){
    sum+=5;
    document.getElementById("s1").innerHTML ="Archaeological Site Museum,Dholavira";
    document.getElementById("s1").style.display ="inline";
```

```
 document.getElementById("id2").style.display ="inline";
 document.getElementById("dov2").style.display ="inline";
 }
 else {
  document.getElementById("s1").style.display = "none";
  document.getElementById("dov2").style.display ="none";
  document.getElementById("id2").style.display ="none";
}
if (check3.checked == true){
 sum+=2;
  document.getElementById("s2").innerHTML ="Archaeological Site Museum,Lothal";
 document.getElementById("s2").style.display ="inline";
 document.getElementById("idd3").style.display ="inline";
 document.getElementById("dov3").style.display ="inline";
 }
 else {
  document.getElementById("s2").style.display = "none";
  document.getElementById("dov3").style.display ="none";
  document.getElementById("idd3").style.display ="none";
}

if (check4.checked == true){
 sum+=20;
  document.getElementById("s3").innerHTML ="Baba Pyare, Khaprakodia Caves";
 document.getElementById("s3").style.display ="inline";
 document.getElementById("id4").style.display ="inline";
 document.getElementById("dov4").style.display ="inline";
 }
 else {
  document.getElementById("s3").style.display = "none";
  document.getElementById("dov4").style.display ="none";
  document.getElementById("id4").style.display ="none";
}

if (check5.checked == true){
 sum+=25;
  document.getElementById("s4").innerHTML ="Buddhish Caves, Junagadh";
 document.getElementById("s4").style.display ="inline";
 document.getElementById("id5").style.display ="inline";
 document.getElementById("dov5").style.display ="inline";
 }
 else {
  document.getElementById("s4").style.display = "none";
  document.getElementById("dov5").style.display ="none";
  document.getElementById("id5").style.display ="none";
```

```
}
if (check6.checked == true){
  sum+=5;
   document.getElementById("s5").innerHTML ="Champaner Monumnets";
  document.getElementById("s5").style.display ="inline";
  document.getElementById("id6").style.display ="inline";
  document.getElementById("dov6").style.display ="inline";
 }
  else {
   document.getElementById("s5").style.display = "none";
   document.getElementById("dov6").style.display ="none";
   document.getElementById("id6").style.display ="none";
}
if (check7.checked == true){
  sum+=5;
   document.getElementById("s6").innerHTML ="Rani Ka-Vav";
  document.getElementById("s6").style.display ="inline";
  document.getElementById("id7").style.display ="inline";
  document.getElementById("dov7").style.display ="inline";
 }
  else {
   document.getElementById("s6").style.display = "none";
   document.getElementById("dov7").style.display ="none";
   document.getElementById("id7").style.display ="none";
}
if (check8.checked == true){
  sum+=25;
   document.getElementById("s7").innerHTML ="Rudabai Step Well";
  document.getElementById("s7").style.display ="inline";
  document.getElementById("id8").style.display ="inline";
  document.getElementById("dov8").style.display ="inline";
 }
  else {
   document.getElementById("s7").style.display = "none";
   document.getElementById("dov8").style.display ="none";
   document.getElementById("id8").style.display ="none";
}

if (check9.checked == true){
  sum+=20;
   document.getElementById("s8").innerHTML ="Modhera Sun Temple";
  document.getElementById("s8").style.display ="inline";
  document.getElementById("id9").style.display ="inline";
  document.getElementById("dov9").style.display ="inline";
 }
```

```
   else {
    document.getElementById("s8").style.display = "none";
    document.getElementById("dov9").style.display ="none";
    document.getElementById("id9").style.display ="none";
  }

  sum=sum*x;
  document.getElementById("totalsum").innerHTML =sum;


}
</script>
<form ng-app="myApp" ng-controller="validateCtrl" name="myForm" novalidate>

<p id="name">Enter Name:<br>
<input type="text" name="user" placeholder="Enter Name" ng-model="user" required>
<span id="nameerror" style="color:#54e346" ng-show="myForm.user.$dirty &&
myForm.user.$invalid">
<span ng-show="myForm.user.$error.required">Username is required.</span>
</span>
</p>

<p id="email">Email:<br>
<input type="email" name="email" placeholder="Enter Email" ng-model="email" required>
<span style="color:#54e346" ng-show="myForm.email.$dirty && myForm.email.$invalid">
<span id="emailerror" ng-show="myForm.email.$error.required">Email is required.</span>
<span id="emailerror" ng-show="myForm.email.$error.email">Invalid email address.</span>
</span>
</p>
<p>

<input type="button" id="btn" value="Click to Book" onclick="confirm()"
ng-disabled="myForm.user.$dirty && myForm.user.$invalid ||
myForm.email.$dirty && myForm.email.$invalid">

<input type="button" id="btnnew" value="Next" onclick="confirm()"
ng-disabled="myForm.user.$dirty && myForm.user.$invalid ||
myForm.email.$dirty && myForm.email.$invalid">
</p>

</form>

<script>
var app = angular.module('myApp', []);
app.controller('validateCtrl', function($scope) {
```

```
    $scope.user = '';
    $scope.email = '';
});

function confirm()
{
  alert("Your Bookings are Confirmed.Thank You for Visiting Gujarat!!");
}

document.getElementById("btnnew").onclick = function () {
        location.href = "http://localhost:2000/";
    };
</script>

<div id="iframeHolder">
  <div id="lc"></div>
</div>
<input type="image" src="lc8.png" id="button" alt="Submit" width="125" height="125">
<script type="text/javascript">
  $(function(){
      $('#button').click(function(){
          if(!$('#iframe').length) {

                $('#iframeHolder').html('<iframe id="iframe" src="http://localhost:8000" width="300"
height="300"></iframe>');
          }
      });
  });
  </script>


</body>
</html>
```

Ticket.css

```
* {
    box-sizing: border-box;

  }
```

```
.column3{
  padding-left:25px;
  float: left;
  width: 30%;
  padding-right: 10px;
  margin-left:30px;
  margin-right:15px;
  margin-top: 15px;
  height: 300px;

}
.column1{
  float: left;
  width: 30%;
  padding-right: 10px;
  margin:15px;
  height: 300px;
  padding-left:25px;

}

.column2{
  float: left;
  width: 30%;
  padding-right: 10px;
  margin:15px;
  height: 300px;
  padding-left:25px;
  overflow:auto;

}
.row{

    background:black;
    background: rgba(0, 0,0,0.3)

}


.row:after {
  content: "";
  display: table;
  clear: both;
}
```

```
#heading{
  padding-bottom:40px;
  color:white;
}

#totalsum{
  background-color: transparent;
  border:none;
  color: white;
  font-weight: bold;
}
#visitor,#monum,#date3{
  padding-left:2px;
  font-size:25px;
  color:white;
  font-weight:bold;
}
#ad,#ch{
  padding-left:5px;
  padding-bottom:5px;
  color:white;
  font-size:15px;
}


#cost{
  padding-left:5px;
  font-size:15px;
  font-weight:bold;
  color:white;

}
#d1{
  margin-bottom:5px;
}
body{
  background-image:url("tent1.jpg");
  background-repeat: no-repeat;
  background-size:cover;
}
#name,#email{
  color:white;
  margin-left:40%;
  font-weight:bold;
}
```

```
#btn{
  margin-left:41%;
}

#nameerror,#emailerror{
  font-weight:bold;
}
#pl1{
   padding-left:5px;
   padding-bottom:5px;
   font-size:16px;
   color:white;

}
#s,#s1,#s2,#s3,#s4,#s5,#s6,#s7,#s8{
  color:white;
  font-size:18px;
}

#id1,#id2,#idd3,#id4,#id5,#id6,#id7,#id8,#id9{
  color:white;
  padding-right:5px;
}

#dov1,#dov2,#dov3,#dov4,#dov5,#dov6,#dov7,#dov8,#dov9{
  margin-bottom:8px;
}

#note1{
  color:#da9ff9;
  font-size:20px;
  font-weight:bold;
}
#button{
  margin-top:-100px;
  margin-left: 90%;
  position:relative;
}
#iframeHolder{
  margin-left:70%;
border:0px;


}
```

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Index.js

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

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

io.sockets.on('connection', function(socket) {
   socket.on('username', function(username) {
      socket.username = username;
      io.emit('is_online', '🔴 <i>' + socket.username + ' joined the chat..</i>');
   });

   socket.on('disconnect', function(username) {
      io.emit('is_online', '🔵 <i>' + socket.username + ' left the chat..</i>');
   })

   socket.on('chat_message', function(message) {
      io.emit('chat_message', '<strong>' + socket.username + '</strong>: ' + message);
   });

});

const server = http.listen(8000, function() {
   console.log('listening on:8000');
});
```

Index.ejs

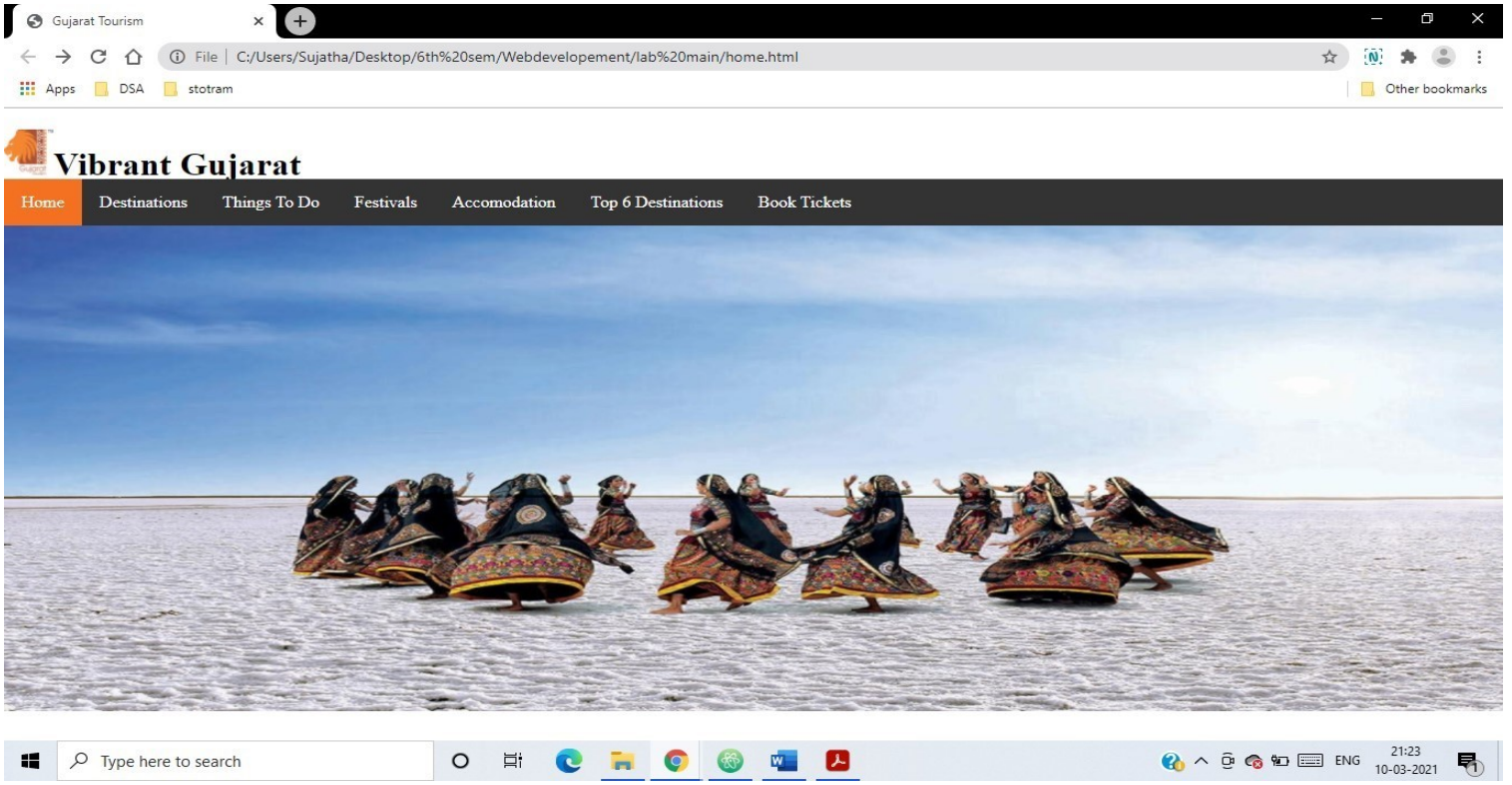
```
<!DOCTYPE html>
<html>
  <head>
    <title>Simple Group Chat on Node.js</title>
    <style>
      * { margin: 0; padding: 0; box-sizing: border-box; }
      body { font: 13px Helvetica, Arial; background: rgb(11, 228, 108); }
```

```
      form { background: #fff; padding: 3px; position: fixed; bottom: 0; width: 100%; border-color: #000; border-top-style: solid; border-top-width: 1px;}
      form input { border-style: solid; border-width: 1px; padding: 10px; width: 180px; margin-right: .5%; }
      form button { width: 50px; background: rgb(130, 224, 255); border: none; padding: 8px; margin-left: 1%; }
      #messages { list-style-type: none; margin: 0; padding: 0; background: white; }
      #messages li { padding: 5px 10px; }
      #messages li:nth-child(odd) { background: rgb(247, 170, 6); }
      #messages li:nth-child(even) { background: rgb(6, 133, 218); }
    </style>
    <script src="../../socket.io/socket.io.js"></script>
    <script src="http://code.jquery.com/jquery-1.10.1.min.js"></script>
  </head>
  <body>
    <ul id="messages"></ul>
    <form action="/" method="POST" id="chatForm">
      <input id="txt" autocomplete="off" autofocus="on" oninput="isTyping()" placeholder="type your message here..." /><button>Send</button>
    </form>
    <script>
        var socket = io.connect('http://localhost:8000');

        // submit text message without reload/refresh the page
        $('form').submit(function(e){
            e.preventDefault(); // prevents page reloading
            socket.emit('chat_message', $('#txt').val());
            $('#txt').val('');
            return false;
        });

        // append the chat text message
        socket.on('chat_message', function(msg){
            $('#messages').append($('<li>').html(msg));
        });

        // append text if someone is online
        socket.on('is_online', function(username) {
            $('#messages').append($('<li>').html(username));
        });

        // ask username
        var username = prompt('Please tell me your name');
        socket.emit('username', username);
```

```
    </script>
  </body>
</html>
```

Output:

home.html



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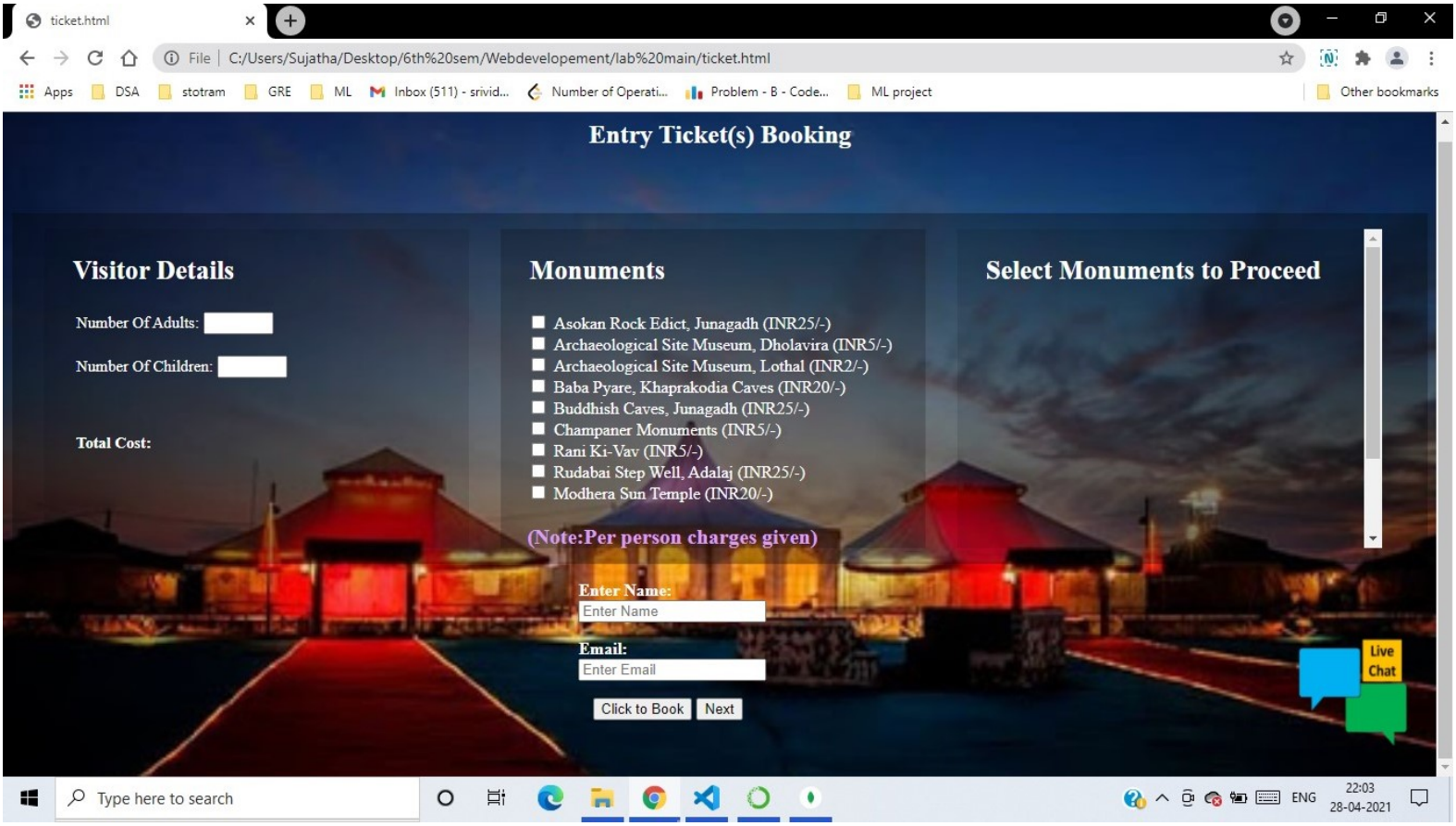
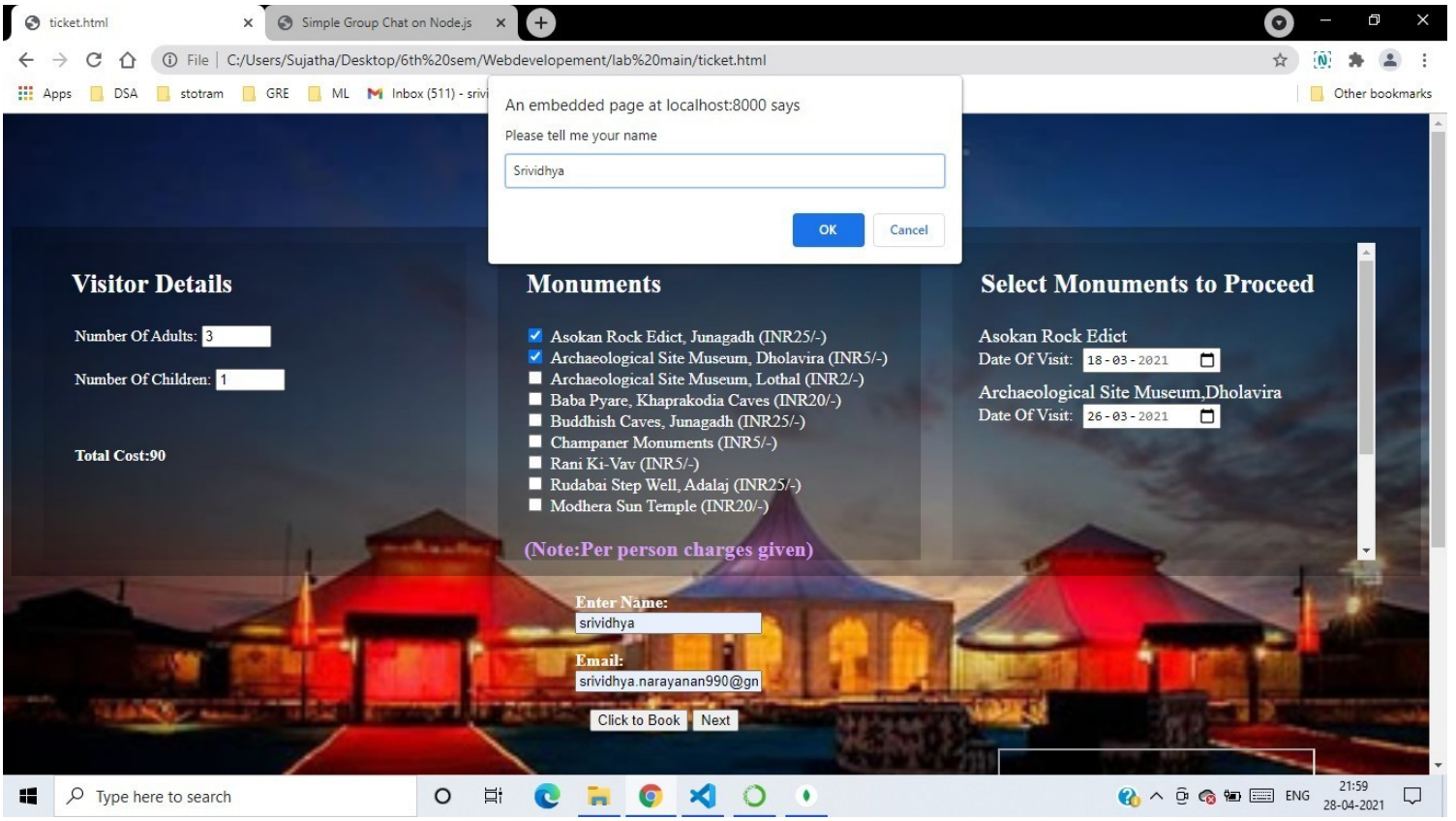
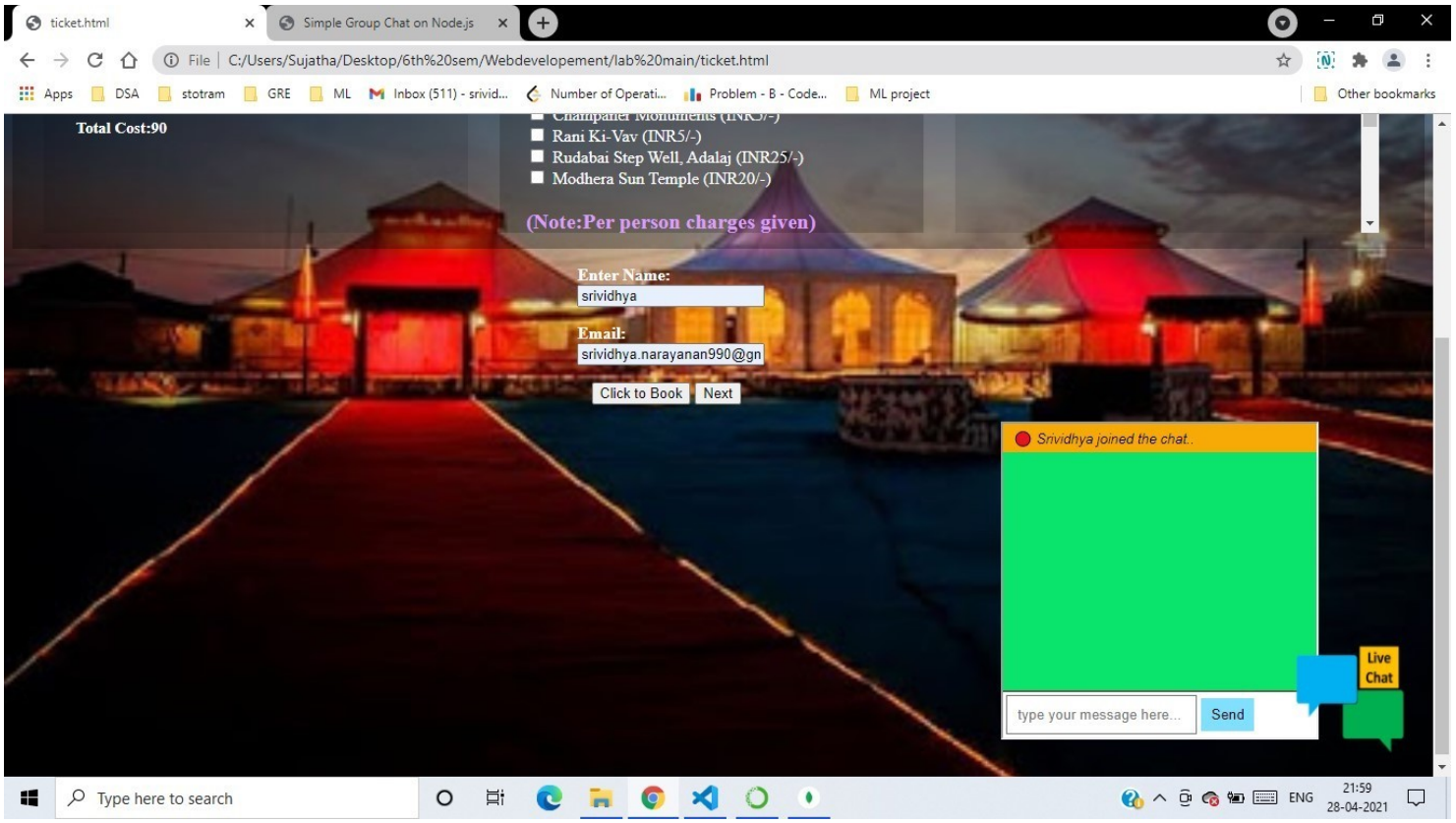
ticket.html: Added Live chat option for users to get their queries resolved.



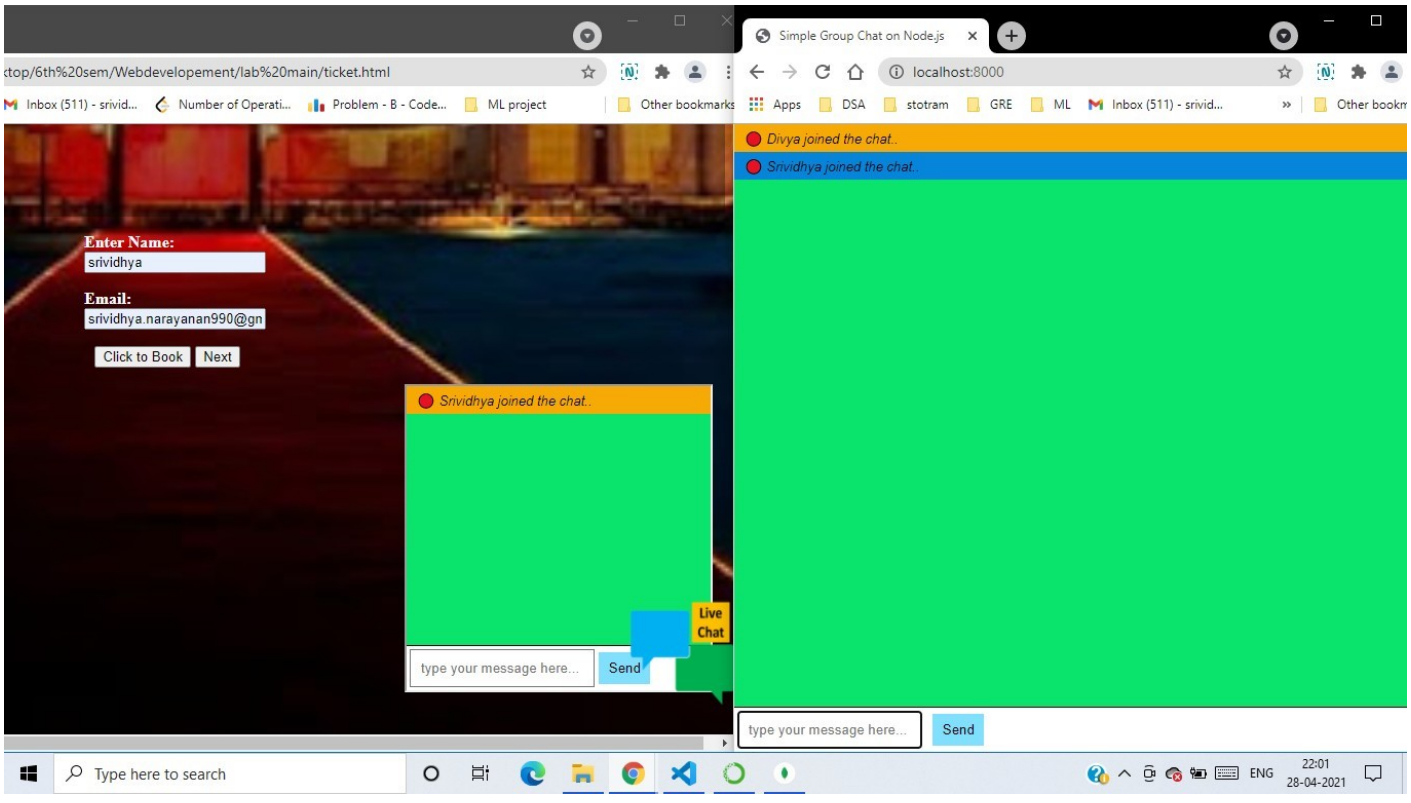
Prompts user to enter their name.



Chat box gets opened.



Multiple user chat room. Shows when user joins the chat .



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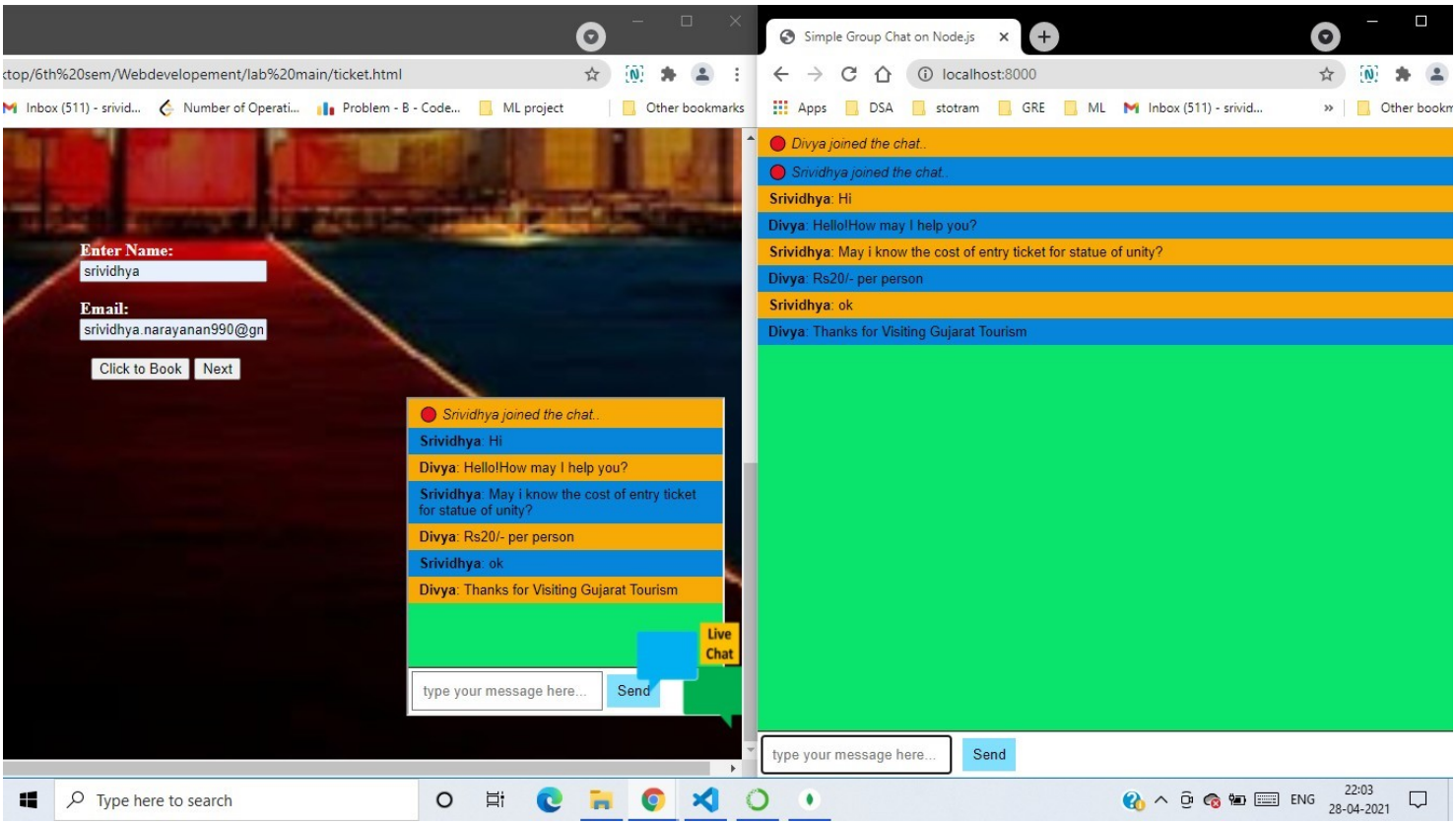
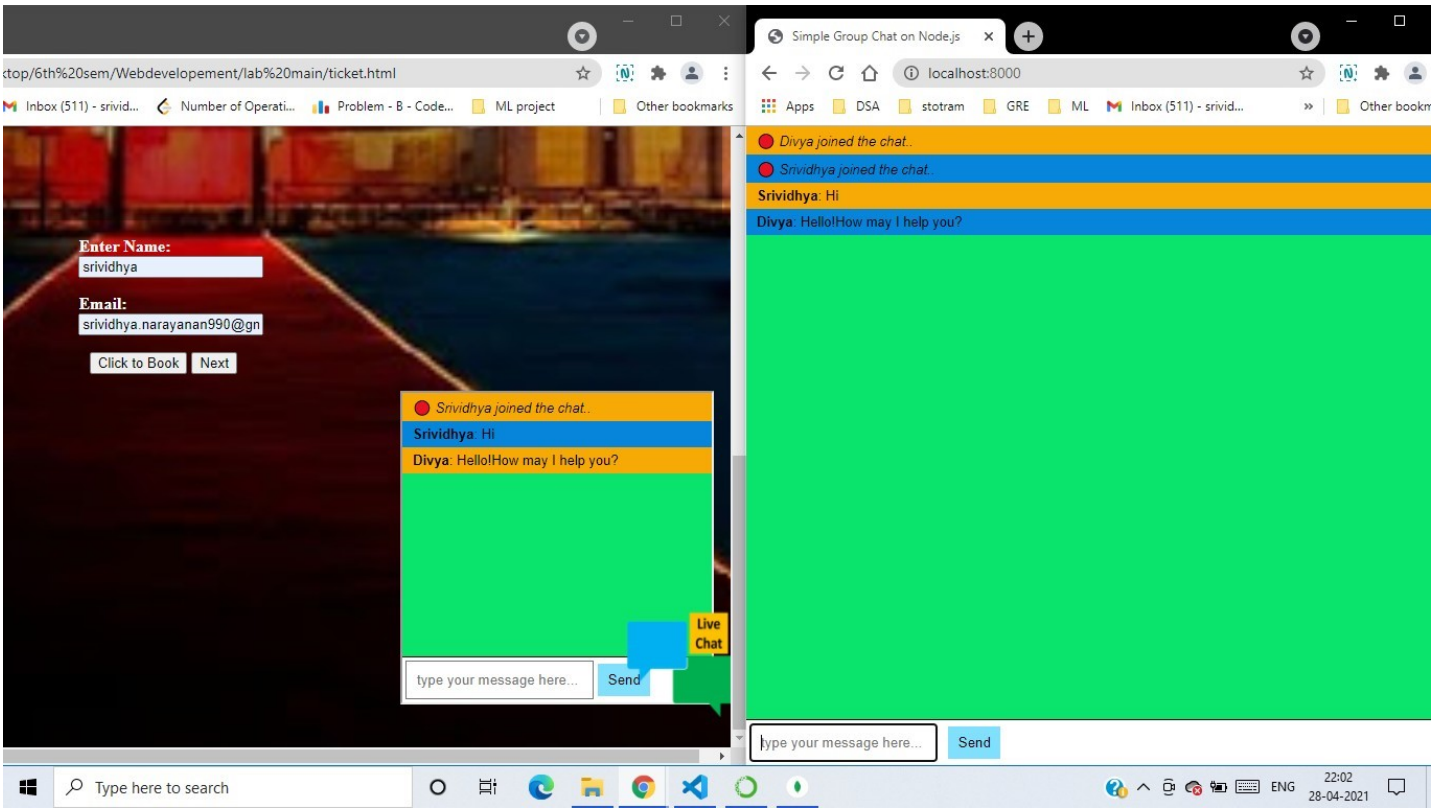
Messages can be sent and will be displayed instantly.





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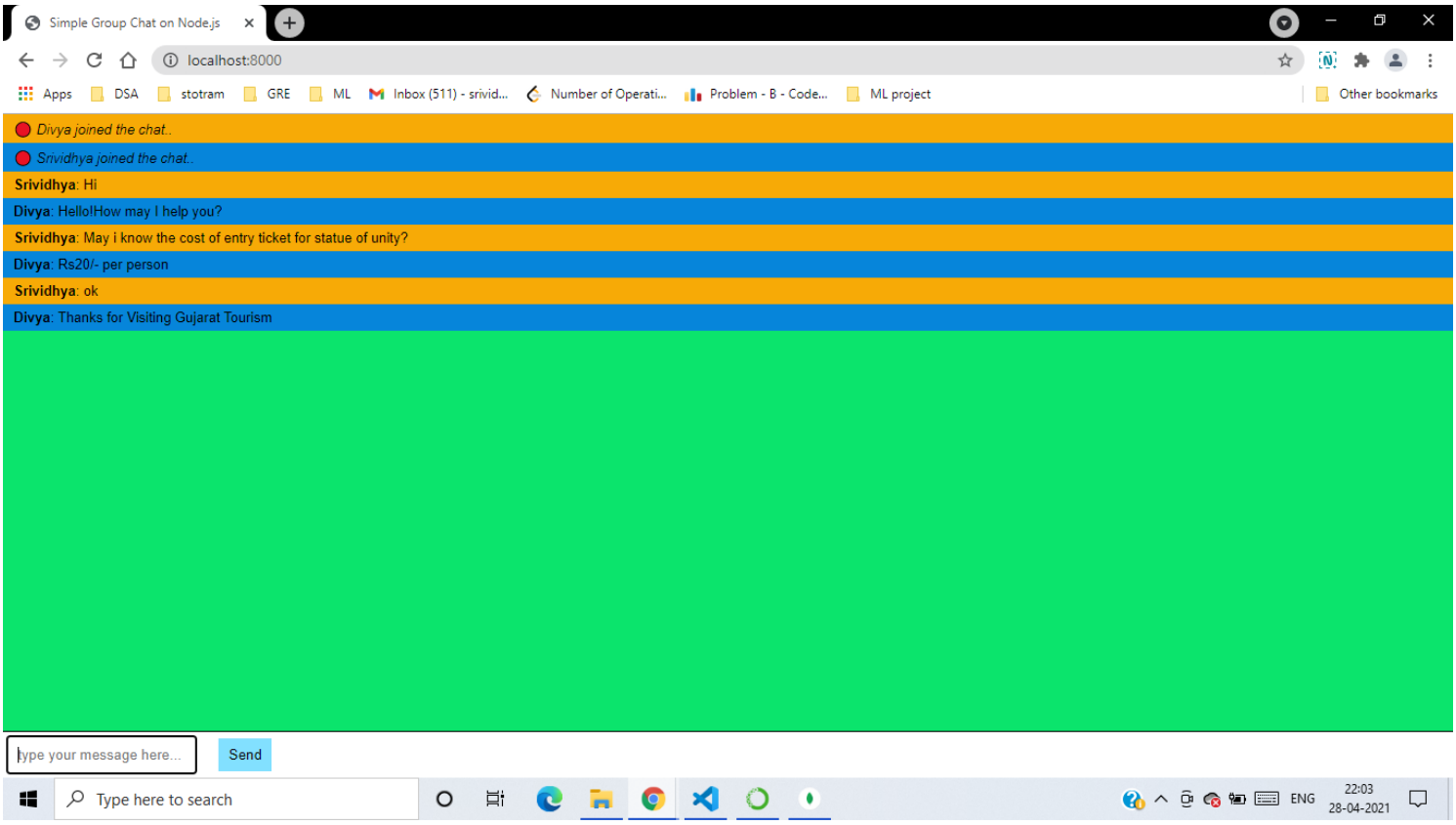
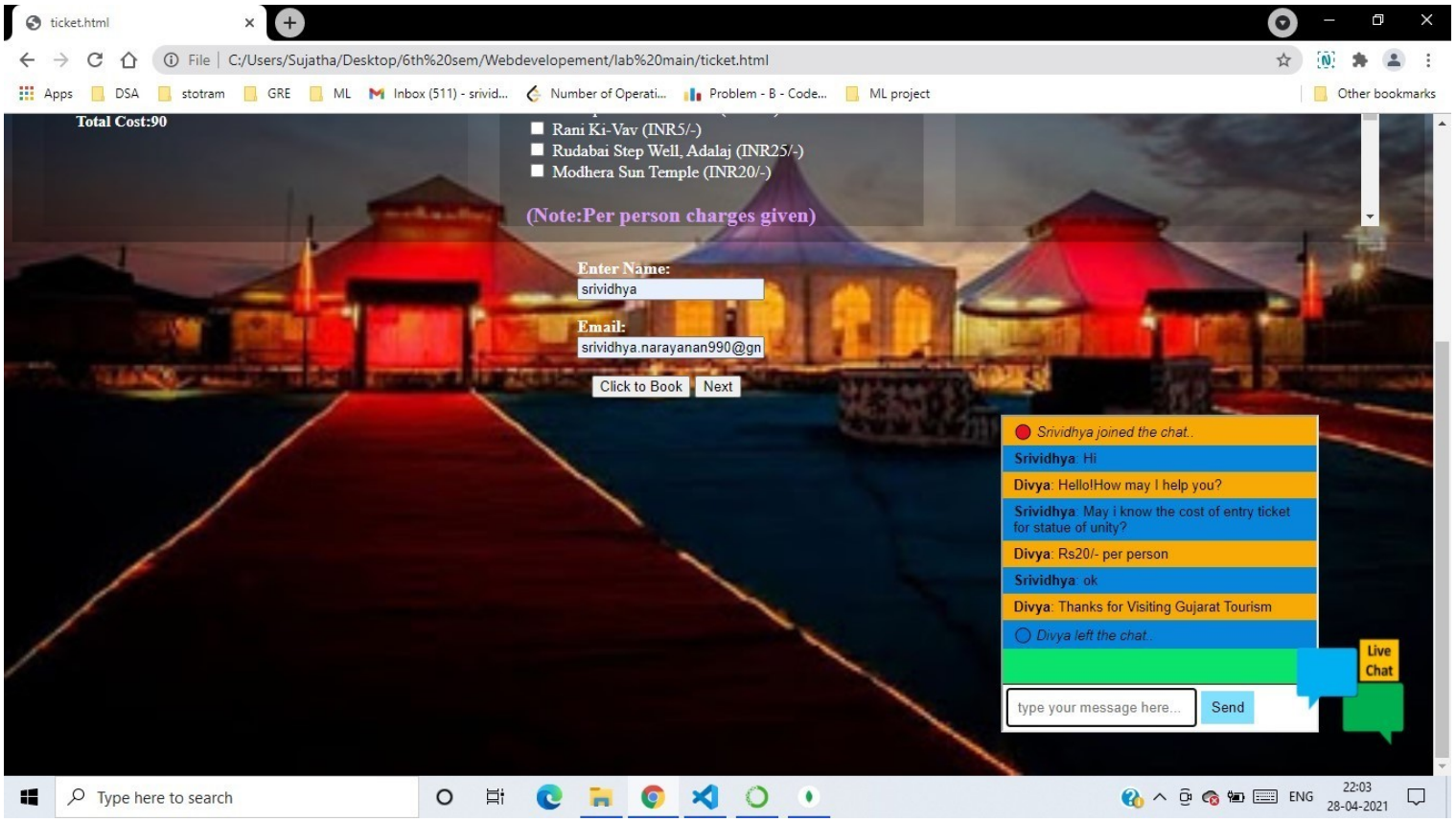


Also Displays when the user leaves the chat room.



N.Srividhya
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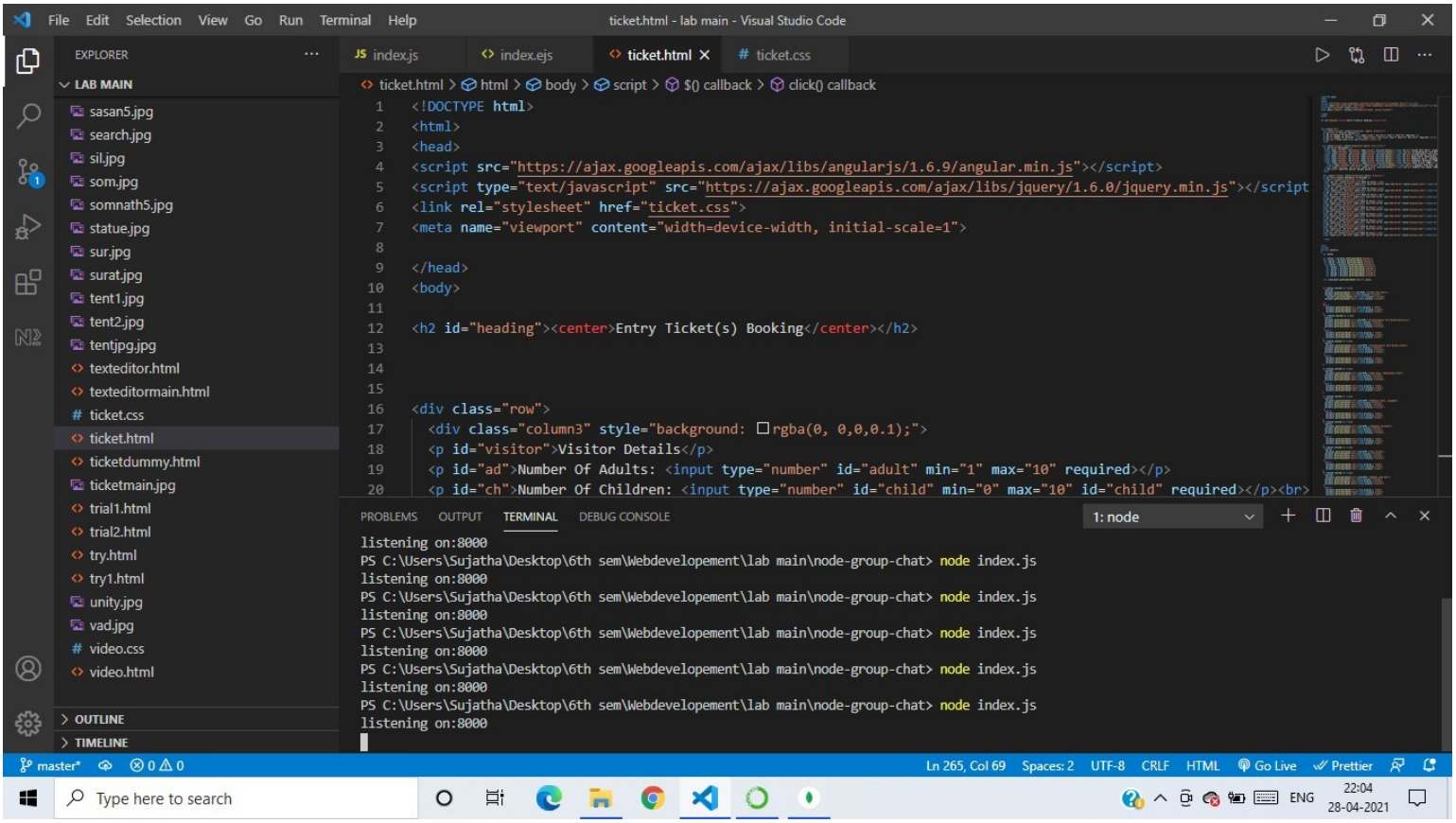
Server runs in the background for the application to work.



Result: The chat room application was successfully created for my tourism website using node js , express , socket.io modules and verified.