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broadcast
var express = require('express');
var app = express();
var http = require('http').createServer(app);
var io = require('socket.io')(http);
app.get('/', function(req, res) {
  res.sendFile( __dirname + "/" + "Broadcast1.html" );
});
var clients = 0;
io.on('connection', function(socket) {
  clients++;
  socket.emit('newclientconnect',{ msg: 'Hey, welcome!'});
  socket.broadcast.emit('newclientconnect',//
  { msg: clients + ' clients connected!'}))
  socket.on('disconnect', function () {
    clients--;
    socket.broadcast.emit('newclientconnect',//
    { msg: clients + ' clients connected!'}))
  });
});
http.listen(3000, function() {
  console.log('listening on localhost:3000');
});
<!DOCTYPE html>
<html>
<head>
<title>Hello world</title>
</head>
<script src = "/socket.io/socket.io.js"></script>
<script>
var socket = io();
socket.on('newclientconnect',function(data) {
  document.body.innerHTML = '';
  document.write(data.msg);
});
</script>
<body>Hello world</body>
</html>

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append
var fs = require('fs');
fs.readFile('node.txt',function(err,data){
  if(data.length == 0 ){
    console.log("File is Empty");
  }
  else{
    console.log("Node File is not Empty")
    fs.appendFile('new.txt',data,'utf8',function(err){
      if(err){
        console.log("not able to append file");
      }else{
        console.log("Content is Appended in New File");
      }
    })
  }
});

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middleware
var express = require('express')
var app = express()
var requestTime = function (req, res, next) {
  req.requestTime = Date.now()
  next()
}
app.use(requestTime)
app.get('/', function (req, res) {
  var responseText = 'Hello World!<br>'
  responseText += '<small>Requested at: ' + req.requestTime + '</small>'
  res.send(responseText)
})
app.listen(3000,function() {
  console.log("server is running on port 3000");
});

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convert
<!DOCTYPE html>
<html>
<title>Feet to Meters Length Converter</title>
<body>
<h2>Length Converter</h2>
<p>Type a value in the Feet field to convert the value to Meters:</p>
<p>
<label>Feet</label>
<input id="inputFeet" type="number" placeholder="Feet"//
oninput="LengthConverter(this.value)" //
onchange="LengthConverter(this.value)">
</p>
<p>Meters: <span id="outputMeters"></span></p>
<script>
function LengthConverter(valNum) {
document.getElementById("outputMeters").innerHTML=valNum/3.2808;
}
</script>
</body>
</html>

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hover
<!DOCTYPE html>
<html>
<head>
<style>
p:hover, h1:hover, a:hover {
background-color: yellow;
}
</style>
</head>
<body>
<h1>Welcome to My Homepage</h1>
<div class="intro">
<h2 id="firstname">My name is Donald</h2>
<p id="hometown">I live in Duckburg</p>
<p>My <b>best</b> friend is Mickey</p>
</div>
<h2>Links:</h2>
<p>Here are my favorite websites:</p>
<a href="https://www.w3schools.com">w3schools.com</a>
<a href="http://www.disney.com" target="_blank">disney.com</a>
<a href="http://www.wikipedia.org" target="_top">wikipedia.org</a>
<p><b>Note:</b> Mouse over paragraphs, headers, and links to see what is getting a style.</p>
<p><b>Note:</b> For :hover to work for other than links in IE, a DOCTYPE must be declared.</p>
</body>
</html>

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validation
<!DOCTYPE html>
<html>
<head>
<script>
function validateForm() {
let x = document.forms["myForm"]["fname"].value;
if (x == "") {
alert("Name must be filled out");
return false;
}
}
</script>
</head>
<body>
<h2>JavaScript Validation</h2>
<form name="myForm" action="/action_page.php"//
onsubmit="return validateForm()" method="post">
Name: <input type="text" name="fname">
<input type="submit" value="Submit">
</form>
</body>
</html>

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chat
var express = require('express');
var app = express();
var http = require('http').createServer(app);
var io = require('socket.io')(http);
app.get('/', function(req, res) {
res.sendFile( __dirname + "/" + "chat.html" );
});
users = [];
io.on('connection', function(socket) {
console.log('A user connected');
socket.on('createUser', function(data) {
console.log(data);
if(users.indexOf(data) >=0) {
socket.emit('userExists', data + ' user already exists');
} else {
users.push(data);
socket.emit('setUser', {username: data});
}
});
socket.on('msg', function(data) {
io.emit('newmsg', data);
});
});
http.listen(3000, function() {
console.log('listening on localhost:3000');
});
<html>
<script src = "/socket.io/socket.io.js"></script>
<script>
var user;
var socket = io();
function createUser() {
socket.emit('createUser', document.getElementById('name').value);
};
socket.on('userExists', function(data) {
document.getElementById('error-container').innerHTML = data;
});
socket.on('setUser', function(data) {
user = data.username;
document.body.innerHTML = '<textarea id = "message" rows=10 cols=100></textarea>\
<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>
<input id = "name" type = "text">
<button onclick = "createUser()">Create user</button>
<div id = "error-container" style="color:red;font-size: larger;"></div>
</body>
</html>

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Image change
<html>
<head>
<title>ImageChange</title>
</head>
<body>

<button class="submit" onclick="changePic()">change</button>

</body>

<script>
function changePic(){
document.getElementById("image").src = "pic_bulbon.gif";
}
</script>
</html>

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Web page
var express = require('express');
const path = require('path');
var app = express();
var http = require('http').createServer(app);
var io = require('socket.io')(http);
var indexpath = path.join(__dirname)
app.use(express.static(indexpath));
app.get('/', function(req, res) {
res.send("<h1>Welcome to our Project</h1>");
});
app.get("/home", function(req, res) {
res.send("<h1>Welcome to our Home Page</h1>");
});
app.get("/login", function(req, res) {
res.send("<h1>Welcome to our Login Page</h1>");
});
app.get('/connect', function(req, res) {
res.sendFile( __dirname + "/" + "chat.html" );
});
http.listen(3000, function() {
console.log("listening on localhost 3000");
});
<!DOCTYPE html>
<html lang="en">
<head>
<title>connect</title>
</head>
<body>
<h1>Hi</h1>
<textarea rows="10" cols="20"//
placeholder="How may i help you"></textarea>
<button>Submit</button>
</body>
</html>
<!DOCTYPE html>
<html lang="en">
<head>
<title>CA2</title>
</head>
<body>
<h1>Welcome to Assistance Project</h1>
<a href="./home">Home</a>
<a href="./login">Login</a>
<a href="./connect">Connect</a>
</body>
</html>

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calculator
const express = require("express");
const bodyParser = require("body-parser")
const app = express();
app.use(bodyParser.urlencoded({
extended:true
}));
app.get("/", function(req, res) {
res.sendFile(__dirname + "/index.html");
});
app.post("/", function(req, res) {
var num1 = Number(req.body.num1);
var num2 = Number(req.body.num2);
var result = num1 + num2 ;
res.send("Addition - " + result);
});
app.listen(3000, function(){
console.log("server is running on port 3000");
});
<!DOCTYPE html>
<html lang="en" dir="ltr">
<head>
<meta charset="utf-8">
<title>Calculator</title>
</head>
<body>
<h1>Simple Calculator.</h1>
<form action="/" method="post">
<input type="text" name="num1"
placeholder="First Number">
<input type="text" name="num2"
placeholder="Second Number">
<button type="submit" name="submit">
calculator
</button>
</form>

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</body></html>
```