The Server-side JavaScript

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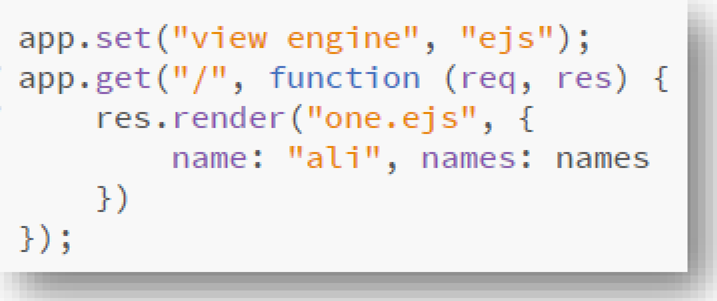
Day 3 cont.

Heavily Used Modules

- Other frameworks that will make it easier using node
  - **Express** – to make things simpler e.g. syntax, DB connections.
  - ~~**Jade**~~, **Ejs** – HTML template system (view engines)
  - **Socket.IO** – to create real-time apps
  - **Nodemon** – to monitor Node.js and push change automatically
  - **Redis** – in memory DB
  - **MongoDB**

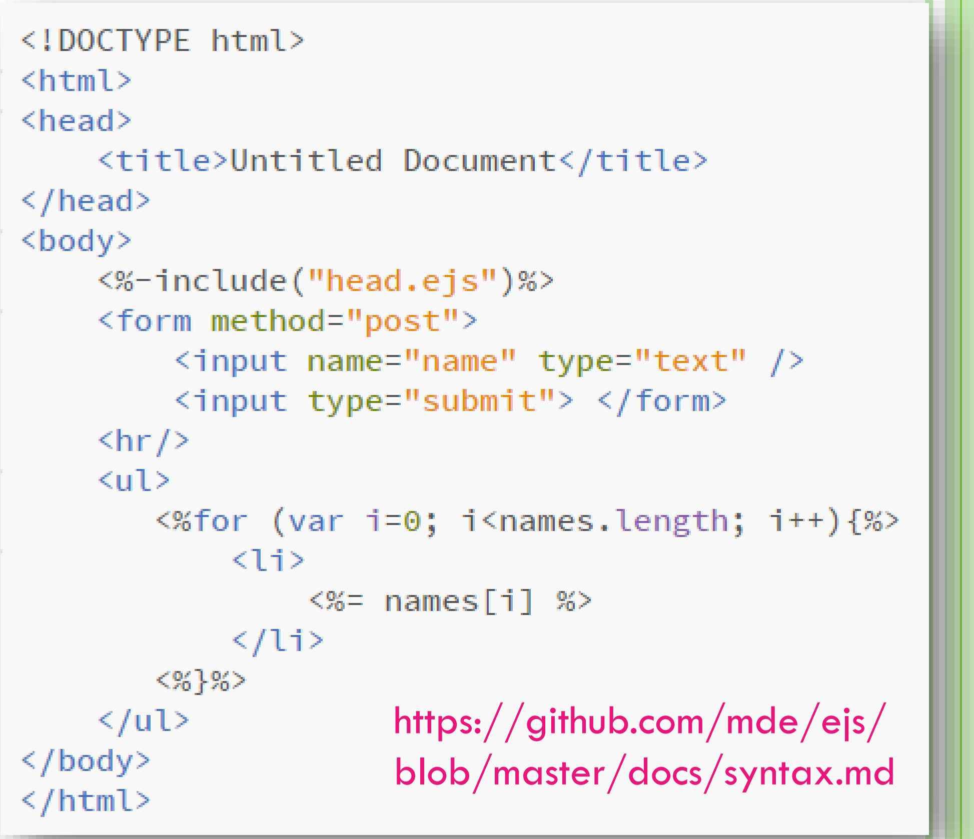
EJS

- Often used view/templating engine with Express
- Express expect to have all its templates in view directory
- Ejs stands for Embedded javaScript
- ".ejs" should pass to res.render() with required parameters as an object



```
app.set("view engine", "ejs");
app.get("/", function (req, res) {
    res.render("one.ejs", {
        name: "ali", names: names
    })
});
```

http://ejs.co/



```
<!DOCTYPE html>
<html>
<head>
    <title>Untitled Document</title>
</head>
<body>
    <%-include("head.ejs")%>
    <form method="post">
        <input name="name" type="text" />
        <input type="submit"> </form>
    <hr/>
    <ul>
       <%for (var i=0; i<names.length; i++){%>
           <li>
               <%= names[i] %>
           </li>
       <%}%>
    </ul>
</body>
</html>
```

https://github.com/mde/ejs/blob/master/docs/syntax.md

Middleware

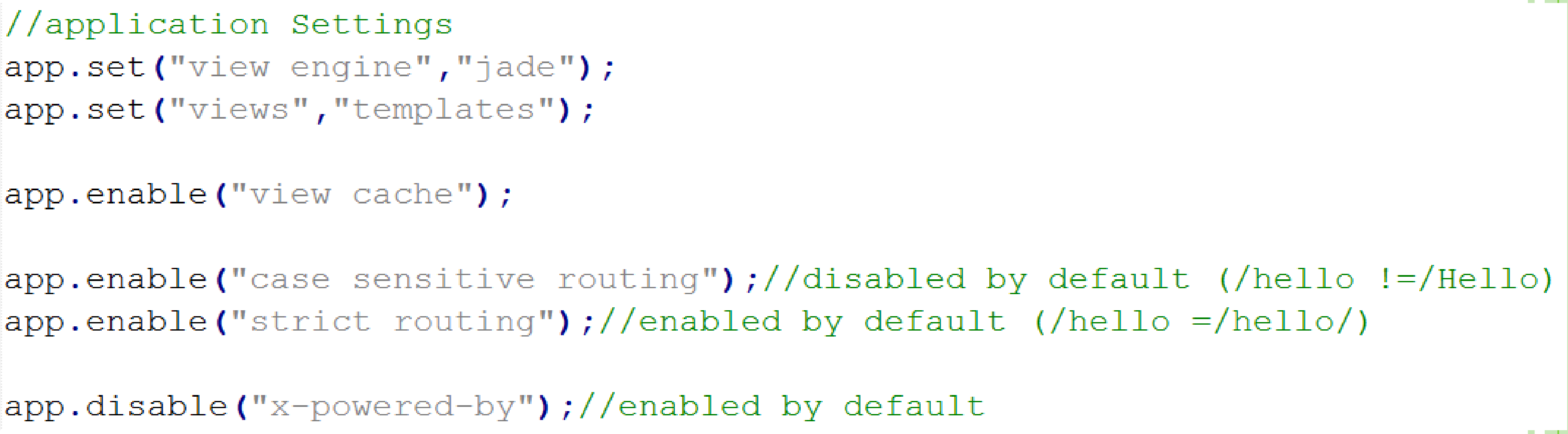
- Functions show user something goes between the browsers and what we do with data from browsers
- Using of app.use() register a piece of middleware
- Middleware category
  - Third party
  - Custom middleware
  - Built-in
  - Routing function
  - Parameter middleware

https://github.com/senchalabs/connect/wiki

- Requests flow move from up to down and move through middleware as they go down

Application Settings

- set()
- get()
- enable()
- disable()



```
//application Settings
app.set("view engine","jade");
app.set("views","templates");

app.enable("view cache");

app.enable("case sensitive routing");//disabled by default (/hello !=/Hello)
app.enable("strict routing");//enabled by default (/hello =/hello/)

app.disable("x-powered-by");//enabled by default
```

Socket.IO

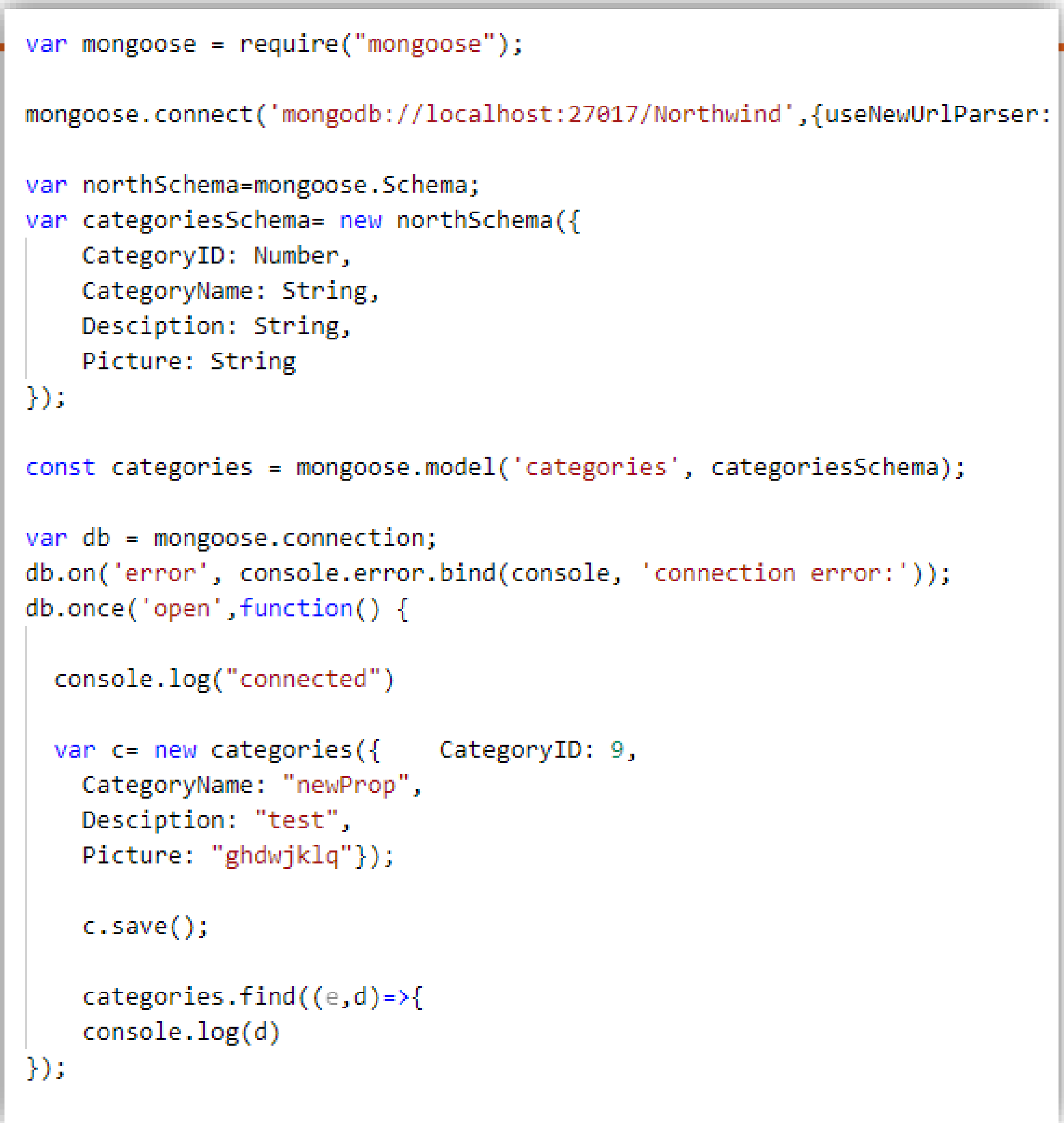
- Websocket is bidirectional communication between browser and server
- Socket-io is front end and backend solution designed for nodejs
- It makes WebSockets and realtime possible in all browsers.

MongoDB

- MongoDB is a NoSQL database system which stores data in the form of BSON documents
- Open source Disk base NoSQL DB
- Great for unstructured data
- Document oriented, group of documents collected in collection
- Uses JavaScript as its Query Language

http://blog.modulus.io/mongodb-tutorial

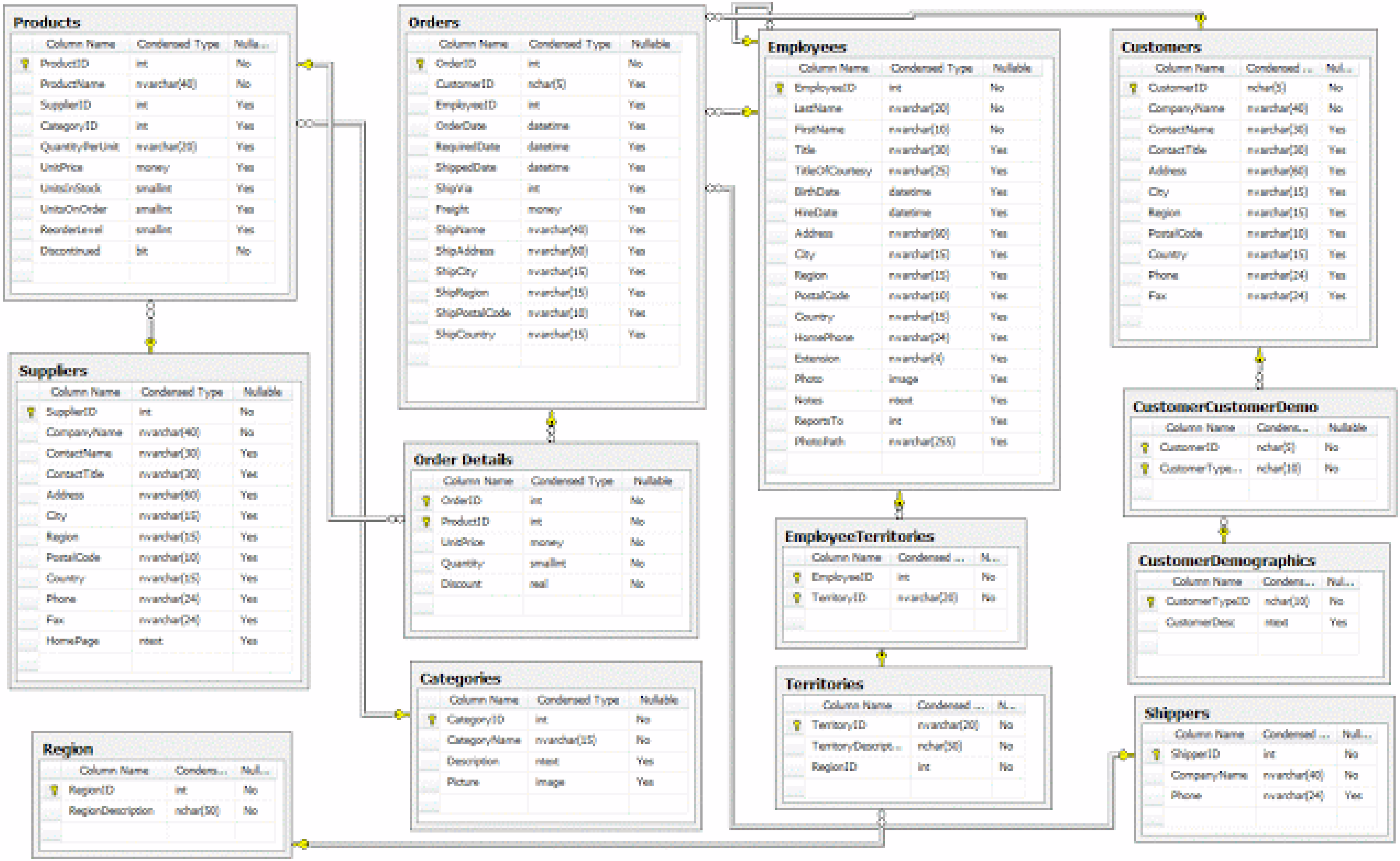
Mongoose



```
var mongoose = require("mongoose");

mongoose.connect('mongodb://localhost:27017/Northwind',{useNewUrlParser:

var northSchema=mongoose.Schema;
var categoriesSchema= new northSchema({
    CategoryID: Number,
    CategoryName: String,
    Desciption: String,
    Picture: String
});

const categories = mongoose.model('categories', categoriesSchema);

var db = mongoose.connection;
db.on('error', console.error.bind(console, 'connection error:'));
db.once('open',function() {

  console.log("connected")

  var c= new categories({    CategoryID: 9,
    CategoryName: "newProp",
    Desciption: "test",
    Picture: "ghdwjklq"});

    c.save();

    categories.find((e,d)=>{
    console.log(d)
});
```

https://mongoosejs.com/docs/queries.html

Northwind



Products

	Column Name	Condensed Type	Nulla...
🔑	ProductID	int	No
	ProductName	nvarchar(40)	No
	SupplierID	int	Yes
	CategoryID	int	Yes
	QuantityPerUnit	nvarchar(20)	Yes
	UnitPrice	money	Yes
	UnitsInStock	smallint	Yes
	UnitsOnOrder	smallint	Yes
	ReorderLevel	smallint	Yes
	Discontinued	bit	No

Orders

	Column Name	Condensed Type	Nullable
🔑	OrderID	int	No
	CustomerID	nchar(5)	Yes
	EmployeeID	int	Yes
	OrderDate	datetime	Yes
	RequiredDate	datetime	Yes
	ShippedDate	datetime	Yes
	ShipVia	int	Yes
	Freight	money	Yes
	ShipName	nvarchar(40)	Yes
	ShipAddress	nvarchar(60)	Yes
	ShipCity	nvarchar(15)	Yes
	ShipRegion	nvarchar(15)	Yes
	ShipPostalCode	nvarchar(10)	Yes
	ShipCountry	nvarchar(15)	Yes

Employees

	Column Name	Condensed Type	Nullable
🔑	EmployeeID	int	No
	LastName	nvarchar(20)	No
	FirstName	nvarchar(10)	No
	Title	nvarchar(30)	Yes
	TitleOfCourtesy	nvarchar(25)	Yes
	BirthDate	datetime	Yes
	HireDate	datetime	Yes
	Address	nvarchar(60)	Yes
	City	nvarchar(15)	Yes
	Region	nvarchar(15)	Yes
	PostalCode	nvarchar(10)	Yes
	Country	nvarchar(15)	Yes
	HomePhone	nvarchar(24)	Yes
	Extension	nvarchar(4)	Yes
	Photo	image	Yes
	Notes	ntext	Yes
	ReportsTo	int	Yes
	PhotoPath	nvarchar(255)	Yes

Customers

	Column Name	Condensed ...	Nul...
🔑	CustomerID	nchar(5)	No
	CompanyName	nvarchar(40)	No
	ContactName	nvarchar(30)	Yes
	ContactTitle	nvarchar(30)	Yes
	Address	nvarchar(60)	Yes
	City	nvarchar(15)	Yes
	Region	nvarchar(15)	Yes
	PostalCode	nvarchar(10)	Yes
	Country	nvarchar(15)	Yes
	Phone	nvarchar(24)	Yes
	Fax	nvarchar(24)	Yes

Suppliers

	Column Name	Condensed Type	Nullable
🔑	SupplierID	int	No
	CompanyName	nvarchar(40)	No
	ContactName	nvarchar(30)	Yes
	ContactTitle	nvarchar(30)	Yes
	Address	nvarchar(60)	Yes
	City	nvarchar(15)	Yes
	Region	nvarchar(15)	Yes
	PostalCode	nvarchar(10)	Yes
	Country	nvarchar(15)	Yes
	Phone	nvarchar(24)	Yes
	Fax	nvarchar(24)	Yes
	HomePage	ntext	Yes

Order Details

	Column Name	Condensed Type	Nullable
🔑	OrderID	int	No
🔑	ProductID	int	No
	UnitPrice	money	No
	Quantity	smallint	No
	Discount	real	No

CustomerCustomerDemo

	Column Name	Condens...	Nullable
🔑	CustomerID	nchar(5)	No
🔑	CustomerType...	nchar(10)	No

EmployeeTerritories

	Column Name	Condensed ...	N...
🔑	EmployeeID	int	No
🔑	TerritoryID	nvarchar(20)	No

CustomerDemographics

	Column Name	Condens...	Nul...
🔑	CustomerTypeID	nchar(10)	No
	CustomerDesc	ntext	Yes

Categories

	Column Name	Condensed Type	Nullable
🔑	CategoryID	int	No
	CategoryName	nvarchar(15)	No
	Description	ntext	Yes
	Picture	image	Yes

Territories

	Column Name	Condensed ...	N...
🔑	TerritoryID	nvarchar(20)	No
	TerritoryDescript...	nchar(50)	No
	RegionID	int	No

Region

	Column Name	Condens...	Nul...
🔑	RegionID	int	No
	RegionDescription	nchar(50)	No

Shippers

	Column Name	Condensed ...	Nul...
🔑	ShipperID	int	No
	CompanyName	nvarchar(40)	No
	Phone	nvarchar(24)	Yes

Assignment

Bonus Assignment

- Using Socket.io make a simple chatting application that displays each participant’s message with his name.
- Deploy your application