**FULL STACK OPEN – PART 0**

**Exercise – 0.5**

**Single Page App**

🡺A **single-page application** (**SPA**) **is a**[**web application**](https://en.wikipedia.org/wiki/Web_application)**or**[**website**](https://en.wikipedia.org/wiki/Website)**that interacts with the user by dynamically rewriting the current**[**web page**](https://en.wikipedia.org/wiki/Web_design)**with new data from the**[**web server**](https://en.wikipedia.org/wiki/Web_server)**, instead of the default method of a**[**web browser**](https://en.wikipedia.org/wiki/Web_browser)**loading entire new pages.**

**Spa(Single Page App):**

<!DOCTYPE html>

<html>

<head>

<link rel="stylesheet" type="text/css" href="/exampleapp/main.css" />

<script type="text/javascript" src="/exampleapp/spa.js"></script>

</head>

<body>

<div class='container'>

<h1>Notes -- single page app</h1>

<div id='notes'>

</div>

<form id='notes\_form'>

<input type="text" name="note"><br>

<input type="submit" value="Save">

</form>

</div>

</body>

</html>

**Main.css:**

.container {

padding: 10px;

border: 1px solid

}

.notes {

color: blue;

}

**Spa.js:**

var notes = []

var redrawNotes = function() {

var ul = document.createElement('ul')

ul.setAttribute('class', 'notes')

notes.forEach(function (note) {

var li = document.createElement('li')

ul.appendChild(li);

li.appendChild(document.createTextNode(note.content))

})

var notesElement = document.getElementById("notes")

if (notesElement.hasChildNodes()) {

notesElement.removeChild(notesElement.childNodes[0]);

}

notesElement.appendChild(ul)

}

var xhttp = new XMLHttpRequest()

xhttp.onreadystatechange = function () {

if (this.readyState == 4 && this.status == 200) {

notes = JSON.parse(this.responseText)

redrawNotes()

}

}

xhttp.open("GET", "/exampleapp/data.json", true)

xhttp.send()

var sendToServer = function (note) {

var xhttpForPost = new XMLHttpRequest()

xhttpForPost.onreadystatechange = function () {

if (this.readyState == 4 && this.status == 201) {

console.log(this.responseText)

}

xhttpForPost.open("POST", '/exampleapp/new\_note\_spa', true)

xhttpForPost.setRequestHeader("Content-type", "application/json")

xhttpForPost.send(JSON.stringify(note));

}

window.onload = function (e) {

var form = document.getElementById("notes\_form")

form.onsubmit = function (e) {

e.preventDefault()

var note = {

content: e.target.elements[0].value,

date: new Date()

}

notes.push(note)

e.target.elements[0].value = ""

redrawNotes()

sendToServer(note)

}

}

**Data.json:**

{"content":"Tharun","date":"2021-05-26T14:26:40.900Z"}