Core java	Frontend		
programming	HTML	CSS	JS
OOPS	build page	apply styles	implement programming logic
	only structure	inline/internal/external	manipulate flow/content on pages
	elements		variable, data operations using collecetions (wrangling)
	tags/attributes	CSS Property : value	functions
	head/body		event handling
	webpage	elemect/id/class	DOM
	website		capturing data from form + validations
	webserver(live)	media queries	JS <-> Other application server
	emit	responsive	thru HTTP POST/GET/PUT/DELETE
	linking to external res	bootstrap	using XHR/AXIOS headers
	layout		synchronous / asynchronous
	navigating thru pages		callback/promise
			JSON data / JSON server

optimize

jasmine

others
machine
accessing
hosted CSS

<head>
<link href="URL"

my machine
hosted CSS file

http://1.1.1.1:22222/mystyle.css

mystyle.css 10kb
2 kb

FE
HTML+CSS
JS (XHR --
>URL--->)

JSON server
books data

http://localhost:3000/books
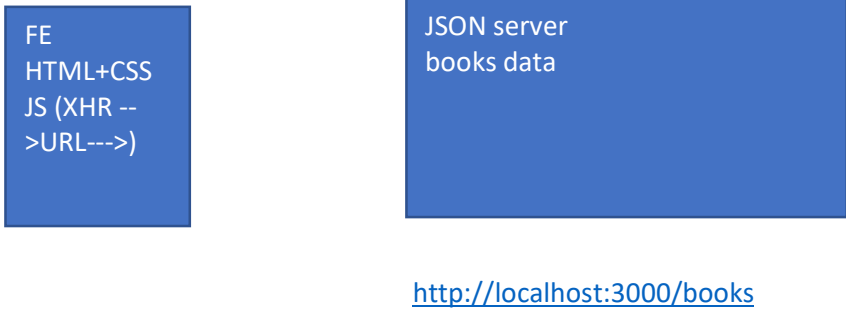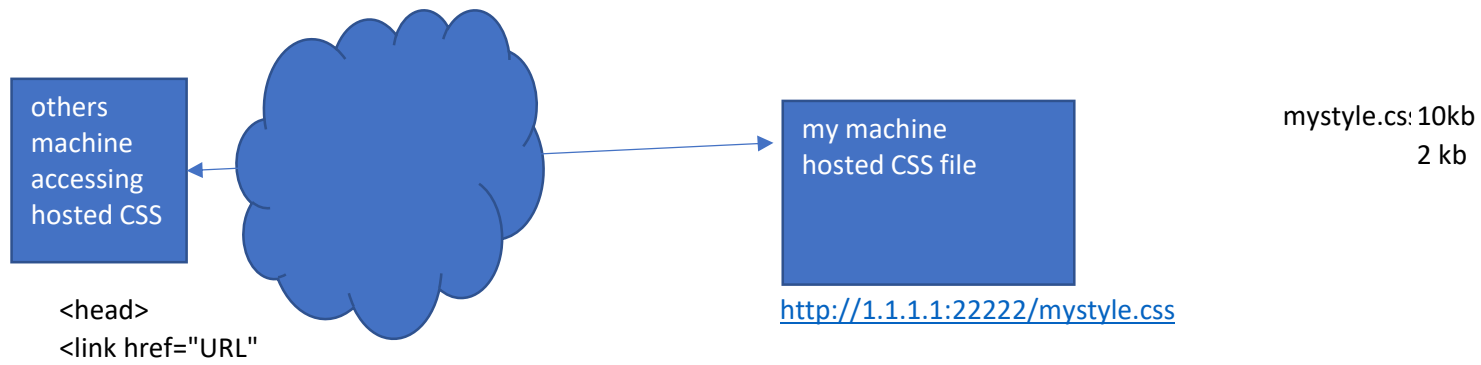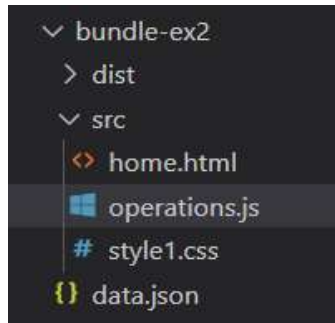
Steps to bundle project using webpack

create html/css/js

create dist/src folders

keep all source files in src folder

```
∨ bundle-ex2
  > dist
  ∨ src
    <> home.html
    ▦ operations.js
    # style1.css
  {} data.json
```
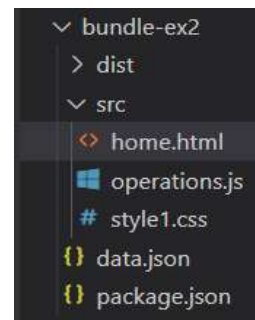
open terminal in project folder

npm init -y

```
PS C:\Wave-31\Exers-Demos\js\s7-temp\bundle-ex2> npm init -y
Wrote to C:\Wave-31\Exers-Demos\js\s7-temp\bundle-ex2\package.json:

{
  "name": "bundle-ex2",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC"
}
```

```
∨ bundle-ex2
  > dist
  ∨ src
    <> home.html
    ▦ operations.js
    # style1.css
  {} data.json
  {} package.json
```

```
npm install clean-webpack-plugin
npm install html-webpack-plugin
npm install -D webpack
npm install -D webpack-cli
npm install -D webpack-dev-server
```

```
bundle-ex2 >  webpack.config.js
1    const path = require('path');
2    const HtmlWebpackPlugin = require('html-webpack-plugin')
3
4    module.exports = {
5        mode:'development',
6        entry: './src/operations.js';
7        output:{
8            filename: 'main.js',
9            path: path.resolve(__dirname,'dist')
10       },
11       plugins : [
12           new HtmlWebpackPlugin({
13               filename:'index.html';
14               template: path.resolve(__dirname,'src/home.html')
15           })
16       ]
17   };
```

development / production

source js / existing js

after buldling, bundled js file

bundled js file location

output html after bundling

source html for bundling

```
bundle-ex2 > {} package.json > {} devDependencies
  1   {
  2     "name": "bundle-ex2",
  3     "version": "1.0.0",
  4     "description": "",
  5     "main": "index.js",
        ▷ Debug
  6     "scripts": {
  7       "build": "webpack --config=webpack.config.js",
  8       "dev": "webpack serve"
  9     },
 10     "keywords": [],
 11     "author": "",
 12     "license": "ISC",
 13     "dependencies": {
 14       "clean-webpack-plugin": "^4.0.0",
 15       "html-webpack-plugin": "^5.5.0"
 16     },
 17     "devDependencies": {
 18       "webpack": "^5.74.0",
 19       "webpack-cli": "^4.10.0",
 20       "webpack-dev-server": "^4.11.0"
 21     }
 22   }
```

run below command in terminal

npm run build

```
.wasm
PS C:\Wave-31\Exers-Demos\js\s7-temp\bundle-ex2> npm run build

> bundle-ex2@1.0.0 build
> webpack --config=webpack.config.js

asset main.js 2.12 KiB [emitted] (name: main)
asset index.html 447 bytes [emitted]
./src/operations.js 884 bytes [built] [code generated]
webpack 5.74.0 compiled successfully in 208 ms
PS C:\Wave-31\Exers-Demos\js\s7-temp\bundle-ex2> █
```

```
∨ bundle-ex2
  ∨ dist
    <> index.html
    ▣ main.js
  > node_modules
  > src
  {} data.json
  {} package-lock.json
  {} package.json
  ⬡ webpack.config.js
```

run below command

npm run dev

```
PS C:\Wave-31\Exers-Demos\js\s7-temp\bundle-ex2> npm run dev

> bundle-ex2@1.0.0 dev
> webpack serve

<i> [webpack-dev-server] Project is running at:
<i> [webpack-dev-server] Loopback: http://localhost:8080/
<i> [webpack-dev-server] On Your Network (IPv4): http://192.168.1.8:8080/
<i> [webpack-dev-server] Content not from webpack is served from 'C:\Wave-31\Exers-Demos\js\s7-temp\bundle-ex2\public' directory
asset main.js 244 KiB [emitted] (name: main)
asset index.html 447 bytes [emitted]
runtime modules 27.3 KiB 12 modules
modules by path ./node_modules/ 160 KiB
  modules by path ./node_modules/webpack-dev-server/client/ 55.8 KiB 12 modules
  modules by path ./node_modules/webpack/hot/*.js 4.3 KiB
    ./node_modules/webpack/hot/dev-server.js 1.59 KiB [built] [code generated]
    ./node_modules/webpack/hot/log.js 1.34 KiB [built] [code generated]
    + 2 modules
  modules by path ./node_modules/html-entities/lib/*.js 81.3 KiB
    ./node_modules/html-entities/lib/index.js 7.74 KiB [built] [code generated]
    ./node_modules/html-entities/lib/named-references.js 72.7 KiB [built] [code generated]
    + 2 modules
  ./node_modules/ansi-html-community/index.js 4.16 KiB [built] [code generated]
  ./node_modules/events/events.js 14.5 KiB [built] [code generated]
./src/operations.js 884 bytes [built] [code generated]
webpack 5.74.0 compiled successfully in 1227 ms
```

← → C ⓘ localhost:8080

[Get data]

[{ "id": "B001", "name": "Spirit of C", "subject": "C Language", "author": "M Cooper", "price": 230 }, { "id": "B002", "name": "Servlets and JSP", "subject": "JSP", "author": "MC-G-Hil", "price": 435 }, { "id": "B003", "name": "Threads in Java", "subject": "Java", "author": "BG Swamy", "price": 341 }, { "id": "B004", "name": "Forms in HTML", "subject": "HTML", "author": "Raghava", "price": 654 }, { "name": "Forms in HTML1", "subject": "HTML2", "author": "Raghava3", "price": 654, "id": "OGNeeX-" }, { "id": "B006", "name": "Forms in HTML1", "subject": "HTML2", "author": "Raghava3", "price": 654 }, { "id": "B007", "name": "Forms in HTML1", "subject": "HTML2", "author": "Raghava3", "price": 654 }]