

**what is front-end UI frameworks?**

**why use front-end web UI framework?**

**bootstrap**

create npm

- `cd conFusion`
- `npm install`

create `.gitignore` under `confusion` file

- type `node_modules` in `.gitignore` file

git push

- `git init`
- `git add .`
- `git status`
- `git commit -m "your words"`
- `git remote add origin URL`
- `git pull --rebase origin master`
- `git push -u origin master`

install bootstrap

- `npm install bootstrap@4.0.0 --save`
- `npm install jquery@3.3.1 popper.js@1.12.9 --save`
- `npm start` to check the synchronized website

add content to `index.html` under `<head>`

```
<!-- Required meta tags always come first -->
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
<meta http-equiv="x-ua-compatible" content="ie=edge">

<!-- Bootstrap CSS -->
<link rel="stylesheet" href="node_modules/bootstrap/dist/css/bootstrap.min.css">
<title>Ristorante Con Fusion</title>
```

before the `</body>`

```
<!-- jQuery first, then Popper.js, then Bootstrap JS. -->
<script src="node_modules/jquery/dist/jquery.slim.min.js"></script>
<script src="node_modules/popper.js/dist/umd/popper.min.js"></script>
<script src="node_modules/bootstrap/dist/js/bootstrap.min.js"></script>
```

**Responsive design**

**what is responsive design?**

make the layout adjust to difference size of devices. The principle is mobile first design -- first satisfy the mobile constraints

**Foundaton for responsive design**

- Grid system
- Fluid images
- Media queries

## bootstrap grid system

e.g. `<div class="container"> <div class="row"> <div class="col-sm-3">`

automatic fit/separate the size the grid, if not initialized size: `.col-sm-` -> small  
`.col-md-` -> medium `.col-lg-` -> large `.col-xl-` -> extra large

default : 12 columns of small(sm) order:

- `<div class="balabala" order-sm-first>`
- `<div class="aaaaaaa" order-sm-last>`

Horizontal alignment

- `<div class="balbal" align-items-center>`

use nesting to separate the page

## exercise

add the the head

- `<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">`
- `<header class="jumbotron">`
- `<div class="container">`
- `<div class="row">`

use the grid size

- `<div class="col col-sm order-sm-first col-md" >`
- `<div class="col-12 col-sm-4 order-sm-first col-md-6">`
- `<div class="row">`
- `<div class="col-4" offset-1 col-sm-2>` : to turn 1 space on the right

add colour

- `<ul class="list-unstyled">`
- `<li><a href= "">`
- `</ul>`

use link to `styles.css`

- `<link rel="stylesheet" href="styles.css">`

choose the place

- `< justify-content-center>`
- `< align-items-center>`
- `< text-center>`