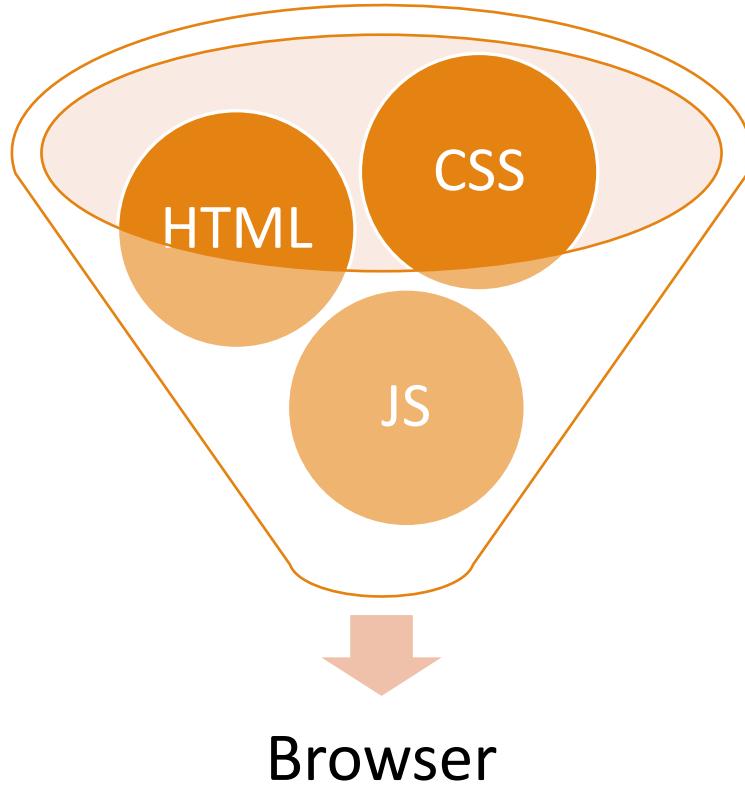


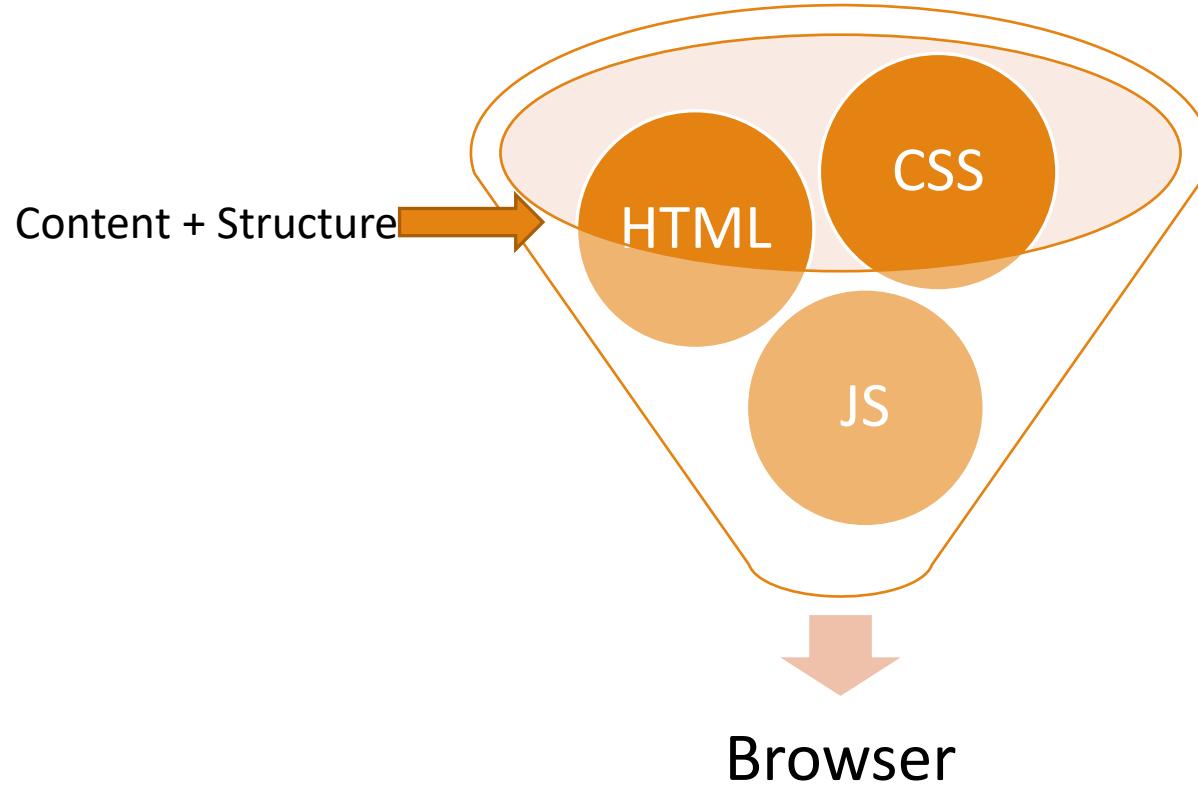
# MERN Stack Course

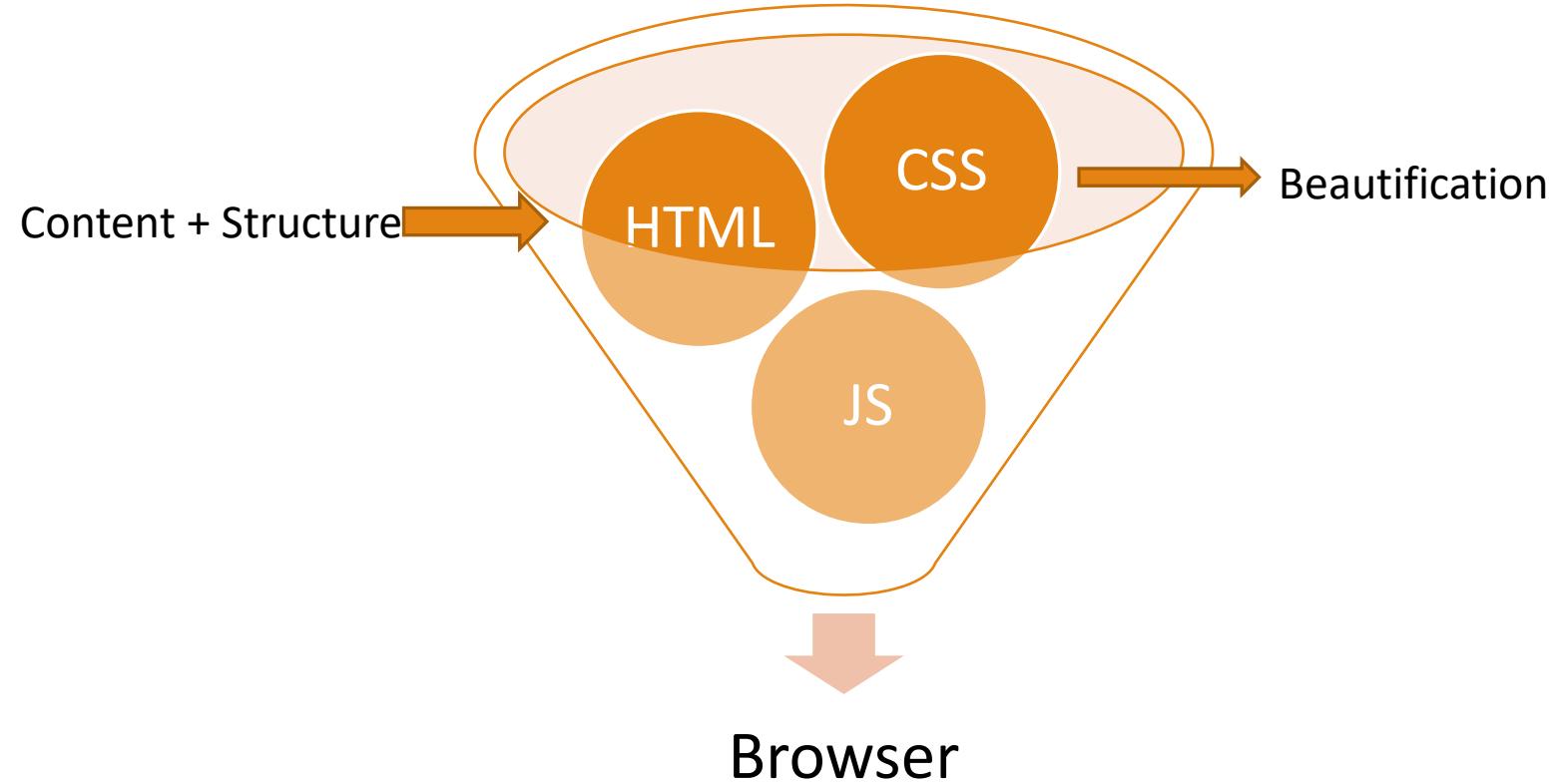
## Over View

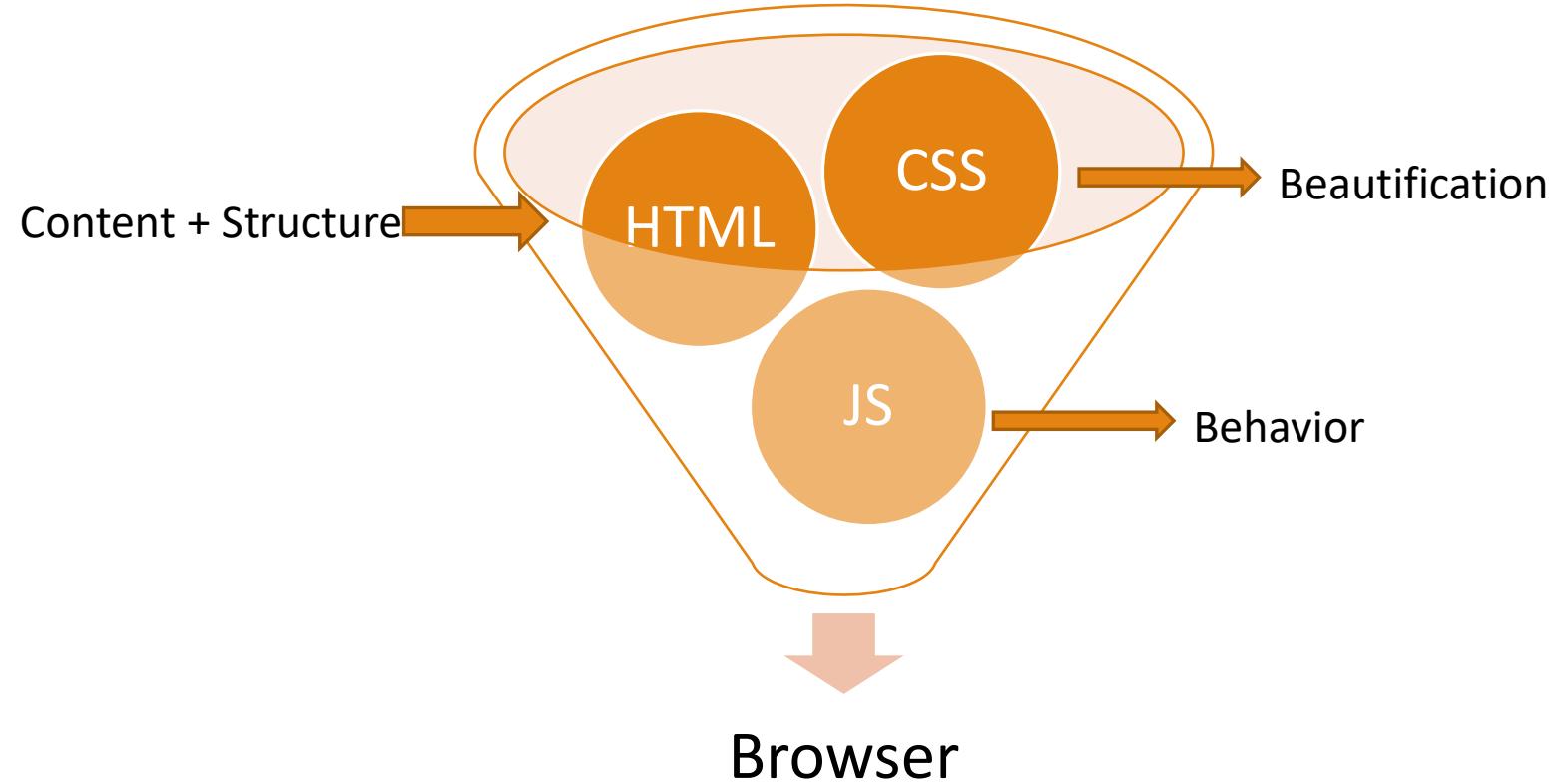
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NEWBIE TO PRO



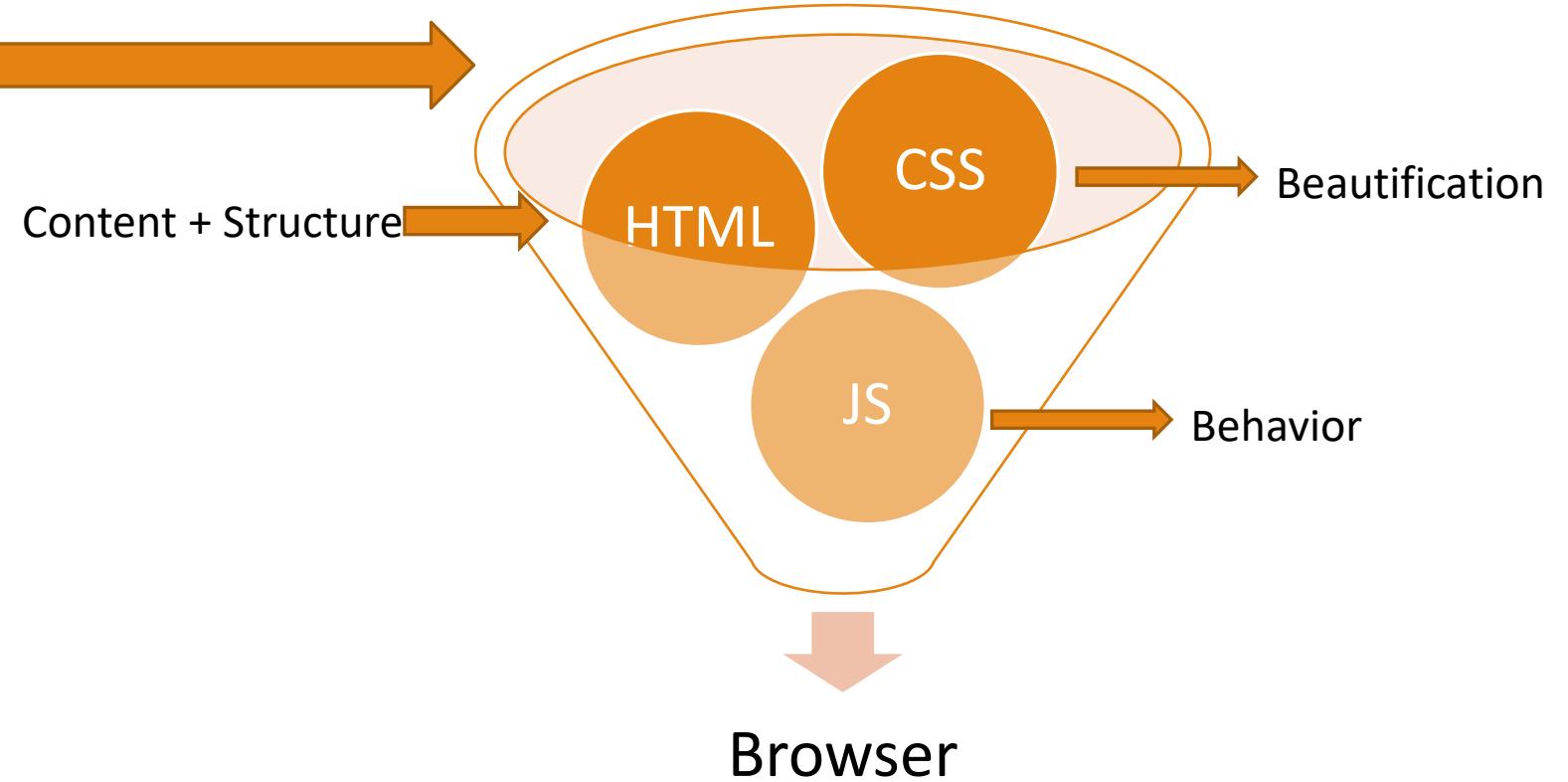








Server





Server

Content + Structure

HTML

CSS

JS

Beautification

Behavior

Browser

## Server Side Techs

- PHP
- ASP.NET
- Python
- JS (Node)
- etc



Server

## Server Side Techs

- PHP
- ASP.NET
- Python
- JS (Node)
- Etc

## Client Side Techs

- HTML (Rendering Engines)
  - Blade
  - Pug etc

Content + Structure

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Server

## Server Side Techs

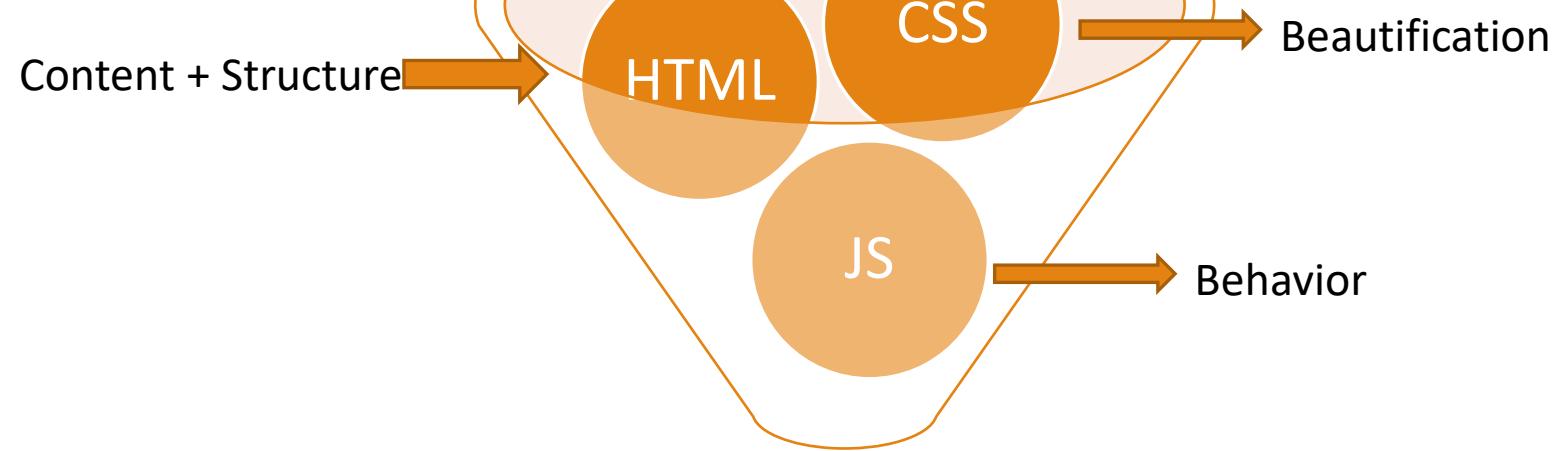
- PHP
- ASP.NET
- Python
- JS (Node)
- Etc

Content + Structure

## Client Side Techs

- HTML (Rendering Engines)
  - Blade
  - Pug etc
- CSS Enhancements
  - Bootstrap
  - Bulma
  - Foundation etc

Browser





Server

#### Server Side Techs

- PHP
- ASP.NET
- Python
- JS (Node)
- Etc

#### Client Side Techs

- HTML (Rendering Engines)
  - Blade
  - Pug etc
- CSS Enhancements
  - Bootstrap
  - Bulma
  - Foundation etc
- JS
  - Jquery
  - Angular
  - React etc

Content + Structure

HTML

CSS

JS

Beautification

Behavior

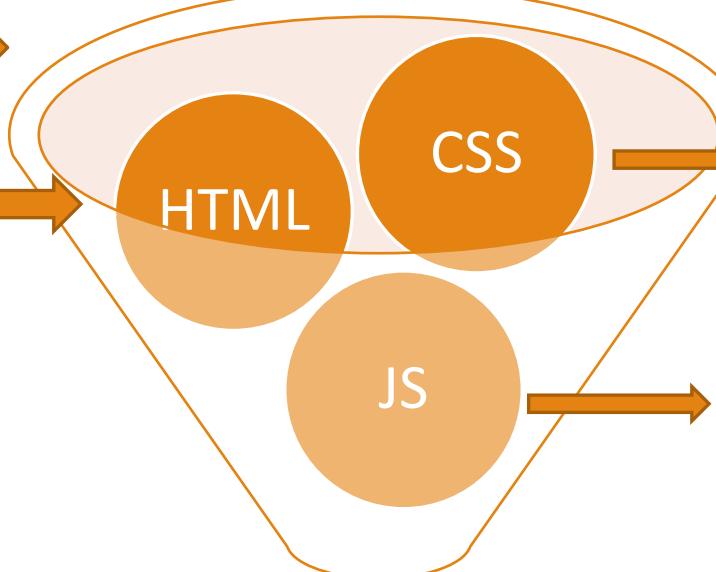
Browser



Server

Server Side Techs	Database Servers	Client Side Techs
<ul style="list-style-type: none"><li>• PHP</li><li>• ASP.NET</li><li>• Python</li><li>• JS (Node)</li><li>• Etc</li></ul>	<ul style="list-style-type: none"><li>• MSSql Server</li><li>• PostGre</li><li>• MongoDB</li><li>• MySQL</li><li>• etc</li></ul>	<ul style="list-style-type: none"><li>• HTML (Rendering Engines)<ul style="list-style-type: none"><li>• Blade</li><li>• Pug etc</li></ul></li><li>• CSS Enhancements<ul style="list-style-type: none"><li>• Bootstrap</li><li>• Bulma</li><li>• Foundation etc</li></ul></li><li>• JS<ul style="list-style-type: none"><li>• Jquery</li><li>• Angular</li><li>• React etc</li></ul></li></ul>

Content + Structure



Beautification

JS

Behavior

Browser



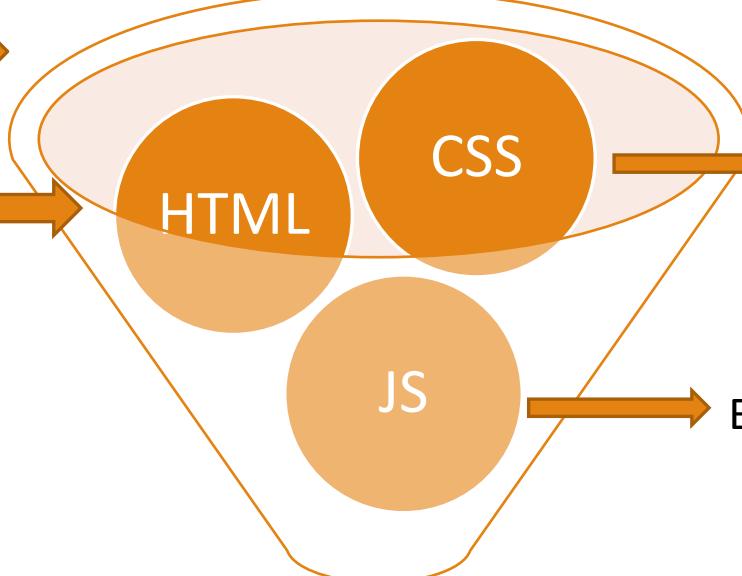
Server

Server Side Techs
<ul style="list-style-type: none"><li>• PHP</li><li>• Laravel</li><li>• ASP.NET</li><li>• MVC Framework</li><li>• Python</li><li>• django</li><li>• JS (Node)</li><li>• Express</li><li>• Etc</li></ul>

Database Servers
<ul style="list-style-type: none"><li>• MSSql Server</li><li>• PostGre</li><li>• MongoDB</li><li>• MySQL</li><li>• etc</li></ul>

Client Side Techs
<ul style="list-style-type: none"><li>• HTML (Rendering Engines)</li><li>• Blade</li><li>• Pug etc</li><li>• CSS Enhancements</li><li>• Bootstrap</li><li>• Bulma</li><li>• Foundation etc</li><li>• JS</li><li>• Jquery</li><li>• Angular</li><li>• React etc</li></ul>

Content + Structure



Browser



Server

Server Side Techs	Database Servers	Client Side Techs
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Content + Structure

HTML

CSS

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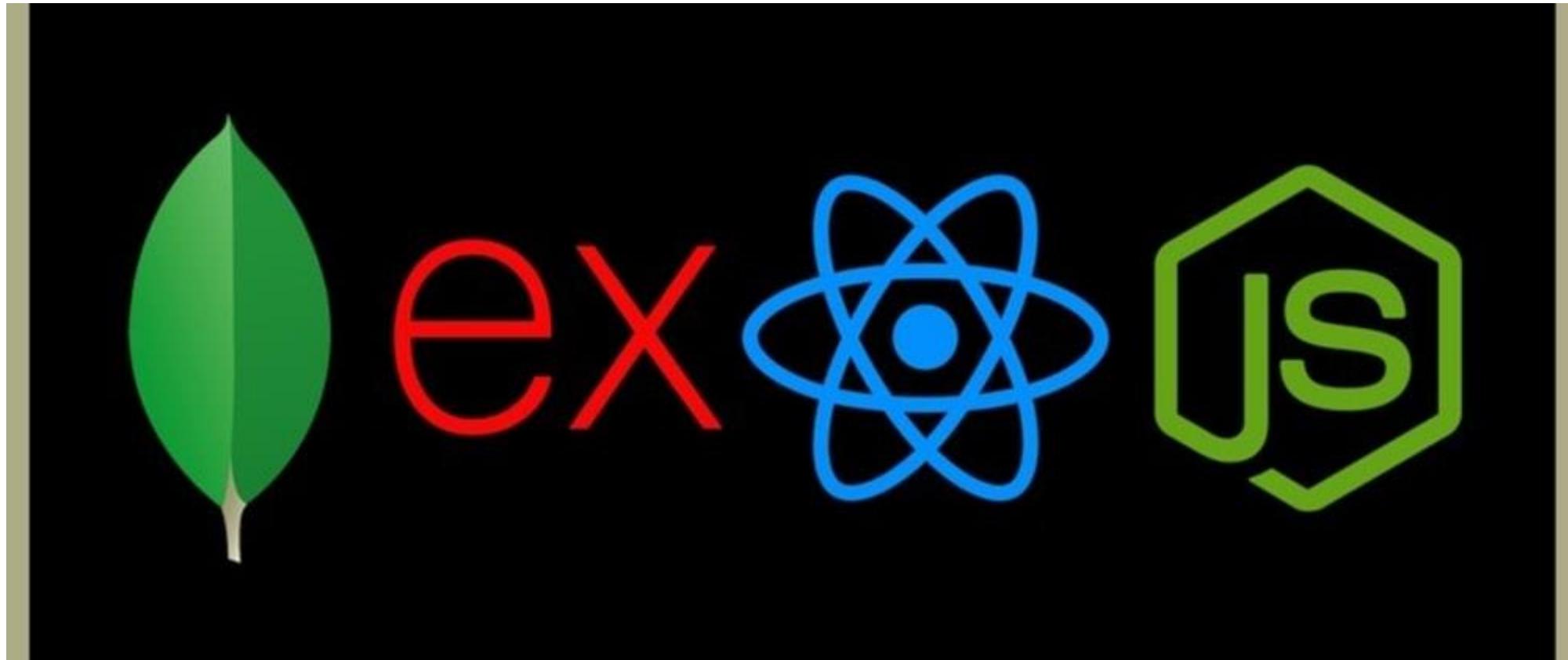
Beautification

Behavior

Browser

# (MERN) Mongodb Express React Node

---



# Course Content Section One HTML+CSS

---

- Basics of HTML
- Basics of CSS
- Layout Designing
- Responsive Pages
- CSS Animations
- Bootstrap

# Course Content Section TWO JS

---

- JS Course Intro
- Environment Setup
- HTML Deployment to Heroku
- Event Binding
- TODO Application
- Jquery
- AJAX Calls to Restful API using JQuery

# Course Content Section Three Node

---

- Node Introduction
- JSON
- Arrays And Arrow Functions
- Sync Async
- NPM
- BASIC RESTFUL API with Express

# Course Content Section Three Node Cont..

---

- Intro to Mongo DB
- MongoDB Relationships using mongoose
- Express App Generation (Server Side Rendering With Session Authentication)
- Express RESTFUL API using mongodb
- Express RESTFUL API Authentication And Authorization

# Course Content Section Four REACT

---

React Introduction

Components

Building a Complete Single Page Web Application using React

- Forms Handling
- Authentication
- Authorization
- Deployment

# Git

---

- Git is a version control system.
  - Tracking code changes
  - Tracking who made changes
  - Coding collaboration
- We Will use github for assignment submission

Change Platform:

- 
-  GitHub
  -  Bitbucket
  -  GitLab

> git --version

# What does Git do?

---

- Manage projects with Repositories
- Clone a project to work on a local copy
- Control and track changes with Staging and Committing
- Branch and Merge to allow for work on different parts and versions of a project
- Pull the latest version of the project to a local copy
- Push local updates to the main project

# Working with git

---

- Initialize Git on a folder, making it a **Repository**
- Git now creates a hidden folder to keep track of changes in that folder
- When a file is changed, added or deleted, it is considered **modified**
- You select the modified files you want to **Stage**
- The **Staged** files are **Committed**, which prompts Git to store a **permanent** snapshot of the files
- Git allows you to see the full history of every commit.
- You can revert back to any previous commit.
- Git does not store a separate copy of every file in every commit, but keeps track of changes made in each commit!

# Why git

---

- Over 70% of developers use Git!
- Developers can work together from anywhere in the world.
- Developers can see the full history of the project.
- Developers can revert to earlier versions of a project.

# What is GitHub?

---

- Git is not the same as GitHub.
- GitHub makes tools that use Git.
- GitHub is the largest host of source code in the world, and has been owned by Microsoft since 2018.

# Using Git with Command Line

---

```
git config --global user.name "w3schools-test"  
git config --global user.email test@w3schools.com  
mkdir myproject  
cd myproject  
git init  
// Add New files at this stage  
git status
```

# Using Git with Command Line

---

```
git add . // add all files in current folder
```

```
git add -all // add all files
```

```
git commit -m "First release of Hello World!"
```

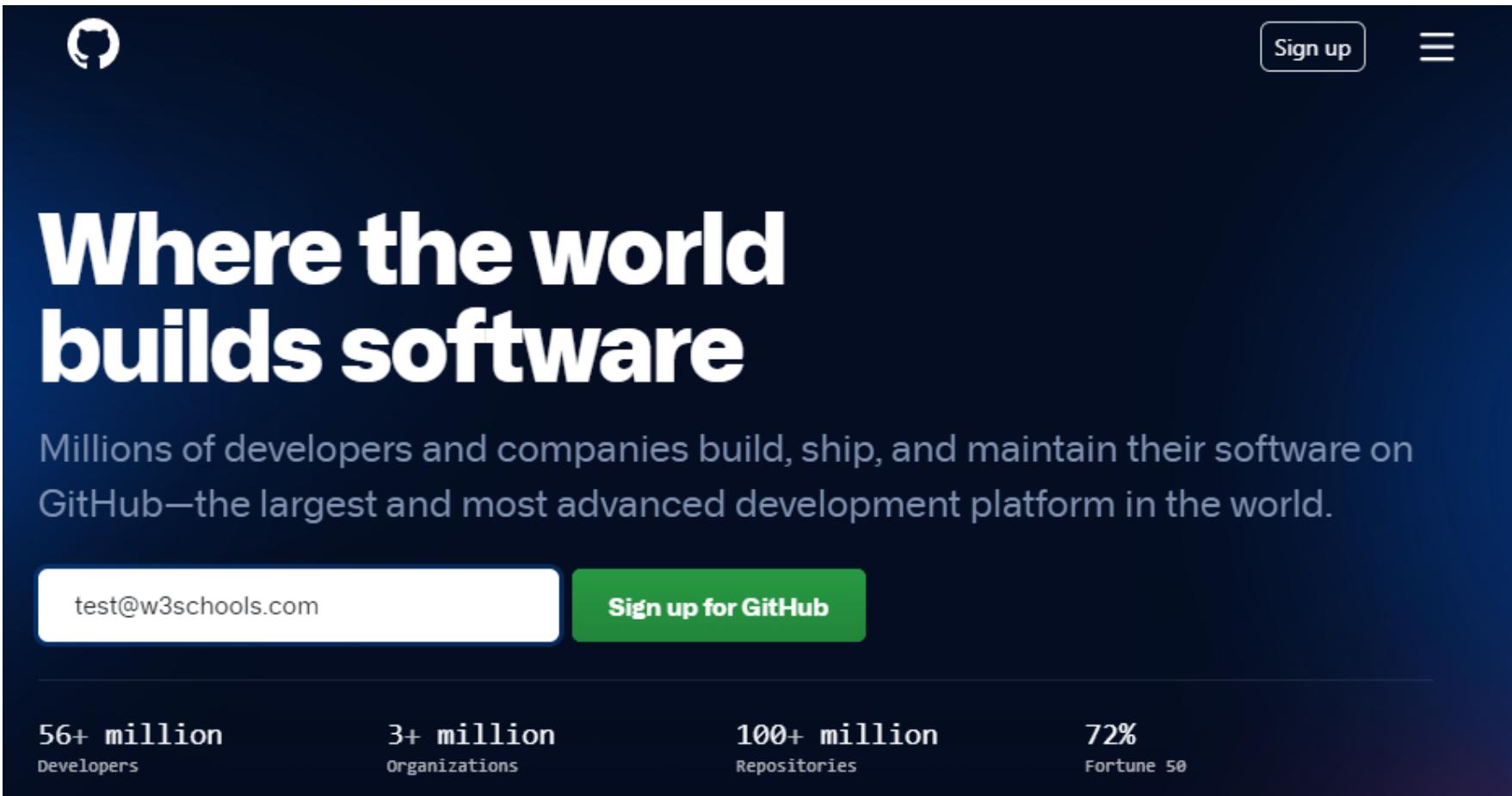
```
git commit -a -m "Updated index.html with a new line" // stage all  
//files automatically
```

```
git branch hello-world-images // make new branches of the code e.g. one  
//for working on backend and one for frontend
```

```
git checkout master
```

```
git merge emergency-fix
```

# Github



The image shows the GitHub homepage. At the top right are the GitHub logo, a "Sign up" button, and a menu icon. The main title "Where the world builds software" is displayed prominently in white text against a dark blue background. Below the title is a subtitle: "Millions of developers and companies build, ship, and maintain their software on GitHub—the largest and most advanced development platform in the world." A sign-in input field contains "test@w3schools.com" and a green "Sign up for GitHub" button. At the bottom, four statistics are listed: "56+ million Developers", "3+ million Organizations", "100+ million Repositories", and "72% Fortune 50".

Where the world  
builds software

Millions of developers and companies build, ship, and maintain their software on GitHub—the largest and most advanced development platform in the world.

test@w3schools.com

Sign up for GitHub

56+ million Developers

3+ million Organizations

100+ million Repositories

72% Fortune 50

# Create a Repo on github

The screenshot shows the GitHub homepage. At the top, there is a navigation bar with links for "Pull requests", "Issues", "Marketplace", and "Explore". On the far right of the header, there is a user icon and a dropdown menu. The dropdown menu is open, showing a blue-highlighted option "New repository" and other options: "Import repository", "New gist", "New organization", and "New project". The main content area features a large call-to-action button labeled "New" with a "New repository" icon. Below this, there is a section titled "Discover interesting projects and people to populate your news feed." with a "Explore GitHub" button. At the bottom left, there is a section titled "Working with a team?" with a "Create an organization" button.

Repositories [New](#)

Find a repository...

Working with a team?

GitHub is built for collaboration. Set up an organization to improve the way your team works together, and get access to more features.

[Create an organization](#)

New repository

- Import repository
- New gist
- New organization
- New project

Discover interesting projects and people to populate your news feed.

Your news feed helps you keep up with recent activity on repositories you [watch](#) and people you [follow](#).

[Explore GitHub](#)

💡 ProTip! The feed shows you events from people you [follow](#) and repositories you [watch](#).

RSS [Subscribe to your news feed](#)

# Github

The screenshot shows the GitHub interface for creating a new repository. At the top, there's a dark header bar with the GitHub logo, a search bar, and navigation links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. To the right of the header are icons for notifications, a plus sign, and a user profile.

The main section is titled 'Create a new repository'. It asks if the user already has a project repository elsewhere and provides a link to 'Import a repository'. Below this, the 'Owner \*' field is set to 'w3schools-test' and the 'Repository name \*' field is set to 'hello-world', which is highlighted with a green checkmark.

A note suggests using short and memorable names like 'friendly-palm-tree'. The 'Description (optional)' field contains the text 'Hello World repository for Git tutorial'.

The 'Visibility' section shows 'Public' selected (indicated by a blue radio button), with the description 'Anyone on the internet can see this repository. You choose who can commit.' Below it, 'Private' is shown with the description 'You choose who can see and commit to this repository.'

The 'Initialize this repository with:' section includes options for adding a README file, a .gitignore file, and choosing a license. Each option has a descriptive subtitle and a 'Learn more' link.

At the bottom is a prominent green 'Create repository' button.

# Add local repo to existing github repo

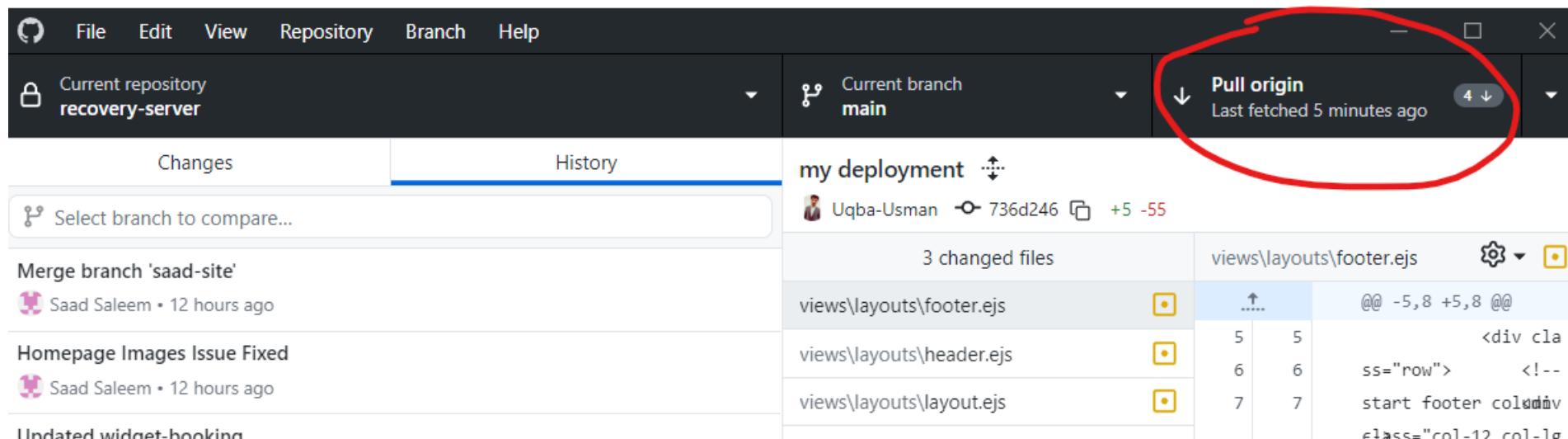
---

```
git remote add origin https://github.com/w3schools-test/hello-world.git
```

Or Alternatively clone your github repo to local directory

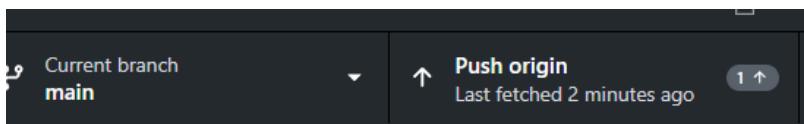
# Pulling to Keep up-to-date with Changes

- pull is a combination of 2 different commands:
  - Fetch //gets all the change history of a tracked branch/repo.
  - Merge //merge combines the current branch, with a specified branch.



# Git Push to GitHub

- Commit Changes
- Push



## No local changes

There are no uncommitted changes in this repository.  
Here are some friendly suggestions for what to do next.



Push commits to the origin remote  
You have 1 local commit waiting to be pushed  
to GitHub.

Push origin

Always available in the toolbar when there are  
local commits waiting to be pushed or **Ctrl + P**

A screenshot of the GitHub desktop application showing a code diff. The left pane shows the "Changes" tab with 2 changed files: "config\development.json" and "routes\site\booking\booking-json-testing.js". The right pane shows the code diff for "routes\site\booking\booking-json-testing.js". The diff highlights changes from line 16 to 21, and then continues from line 19 to 31. Lines 19 and 20 are highlighted in pink, while lines 21 through 31 are highlighted in green. A summary and description input field are at the bottom, and a "Commit to main" button is visible.

# .gitignore

---

- git can specify which files or parts of your project should be ignored by Git using a .gitignore file.

```
# ignore ALL .log files  
*.log
```

```
# ignore ALL files in ANY directory named temp  
temp/
```

**node\_modules # ignore node\_modules**

# Assignments/Lab Task Submissions

---

Make a Repo on github and submit your link to a google form

- Link is available at <https://usmanlive.com/>

Your Repo should contain following folder

Assignment1	Lab Task 1	Midterm
Assignment 2	Lab Task 2	Final
Assignment 3	Lab Task 3	
Assignment 4	Lab Task 4	Any other folders for your practice

# Course Resources

---

Visit <https://usmanlive.com/>

- Videos
- Slides
- Articles
- Whats Group link
- Assignments
- Lab Tasks
- Sample Apps