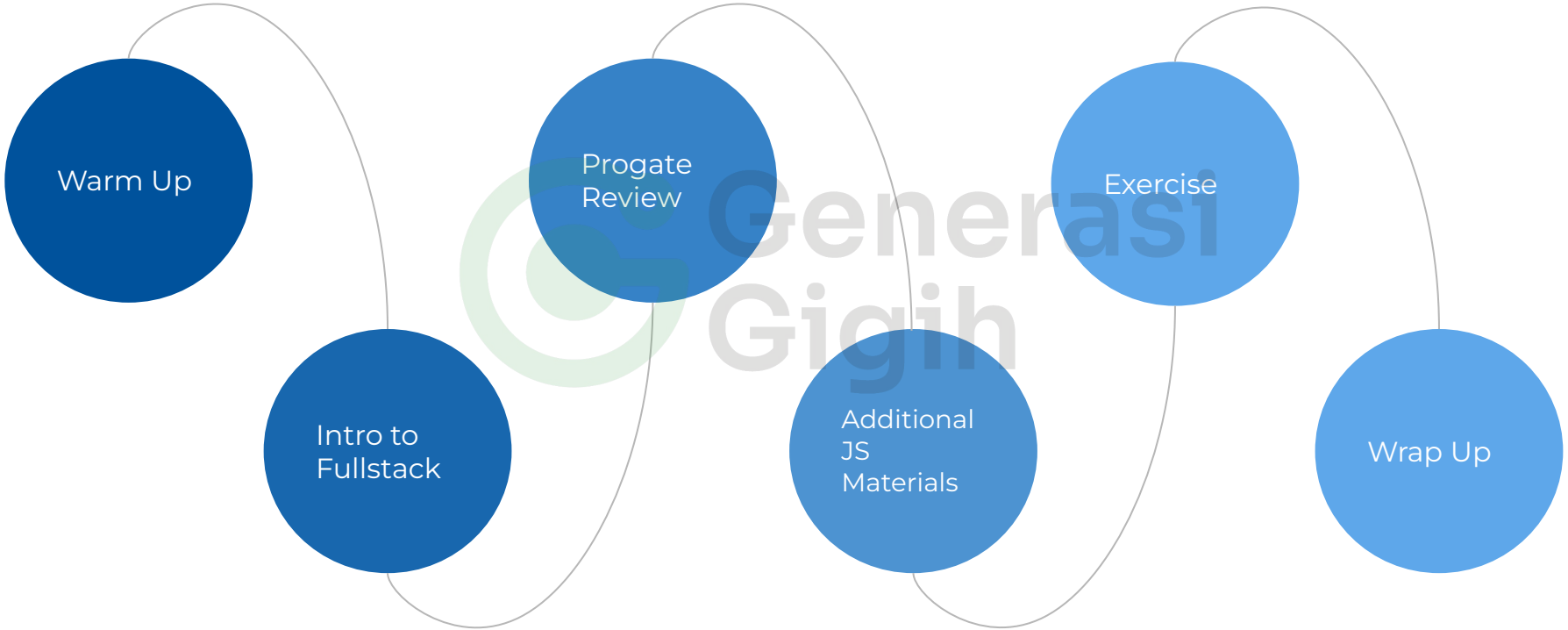
Full Stack Engineer

Module 1.1: Introduction to Fullstack Track

Our Agenda


Warm Up
Intro to Fullstack
Progate Review
Additional JS Materials
Exercise
Wrap Up

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Let’s Warm Up!

Let’s Discuss

What is fullstack

Javascript

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Let’s Talk About The Materials

Fullstack Engineering

- involves working on both the frontend and backend of an app
- Frontend: refers to the user interface that users interact with
- Backend: refers to the server-side development that supports the frontend
- Fullstack engineers are responsible for managing the entire application development process from start to finish.
- In this project, we will use 1 language, Javascript, that supports both Backend and Frontend application

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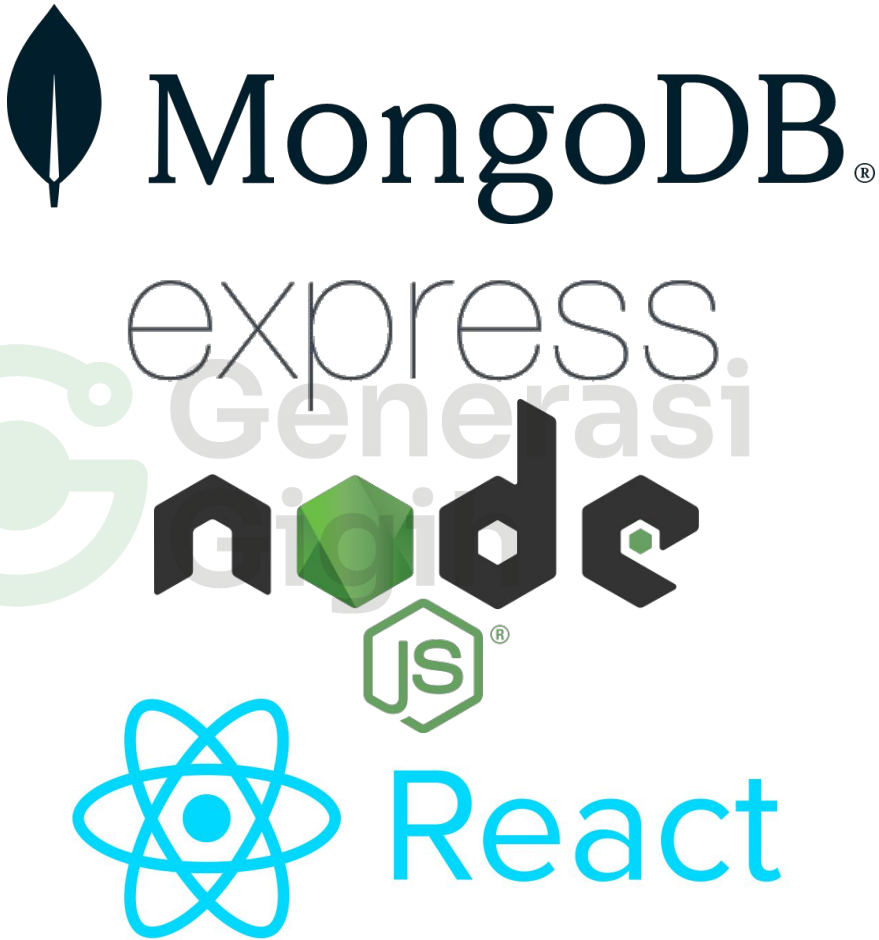
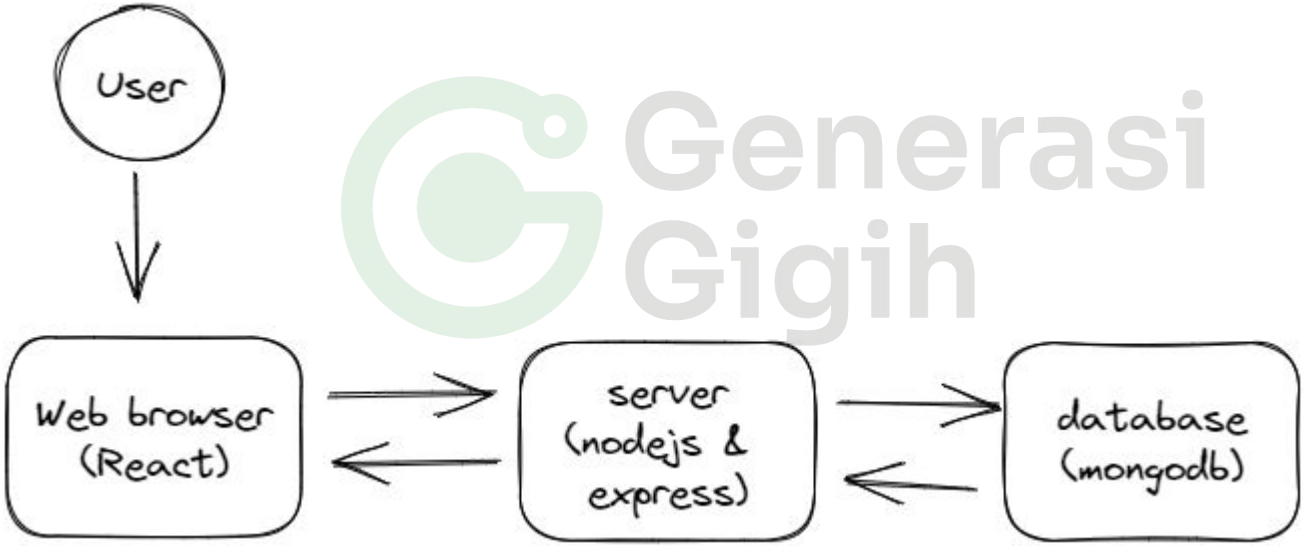
MERN stack





Review: Javascript

- Before we dive further into the course, let’s take some quiz on Javascript
- There will be some basic questions related to Javascript.
- Try to answer it by yourself
- Good luck :)

Review: Javascript

```
let number = 1
number += 2

console.log(number)
```

Guess the output

a. 1
b. 2
c. 3
d. 4

Review: Javascript

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let number = 1
number += 2

console.log(number)
```

Guess the output

a. 1
b. 2
c. 3
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Review: Javascript

```
const A = true
const B = false
```

What is the output of (A || B)

a. true
b. false

Review: Javascript

```
const A = true
const B = false
```

What is the output of (A || B)

a. true
b. false

Review: Javascript

```
for (let i = 0; i < 5; i++) {
  console.log(i)
}
```

Guess the output

a. 0 1 2 3 4
b. 0 1 2 3 4 5
c. 1 2 3 4
d. 1 2 3 4 5

Review: Javascript

```
for (let i = 0; i < 5; i++) {
  console.log(i)
}
```

Guess the output

a. 0 1 2 3 4
b. 0 1 2 3 4 5
c. 1 2 3 4
d. 1 2 3 4 5

Further reading:
https://en.wikipedia.org/wiki/Off-by-one_error

Review: Javascript

```
const fruits = [
  “apple”,
  “banana”,
  “orange”
]
```

What is the value of fruits[1]

a. apple
b. banana
c. orange

Review: Javascript

```
const fruits = [
  “apple”,
  “banana”,
  “orange”
]
```

What is the value of fruits[1]

a. apple
b. banana
c. orange

Remember that array in Javascript start from 0

Review: Javascript

```
const student = {
  name: “Alice”,
  age: 15
}
```

What is the value of student.name

a. Alice
b. 15
c. {name: “Alice”, age: 15}
d. undefined

Review: Javascript

```
const student = {
  name: “Alice”,
  age: 15
}
```

What is the value of student.name

a. Alice
b. 15
c. {name: “Alice”, age: 15}
d. undefined

Explanation

- (b) is when we call student.age
- (c) is when we call student
- (d) is when we call key that does not exist in student

Review: Javascript

```
func someFunc(num1, num2) {
    return num1 + num2
}
```

What is the output of (console.log(2,3))

a. 2
b. 3
c. 5

Review: Javascript

```
func someFunc(num1, num2) {
    return num1 + num2
}
```

What is the output of (console.log(2,3))

a. 2
b. 3
c. 5

The function given is a function to add 2 values

Review: Javascript

```
// animal.js

const animal = “dog”
export default animal
```

How can we import animal in our code

a. Import { animal } from animal.js
b. Import animal from animal.js
c. None of the above
d. both

Review: Javascript

```
// animal.js

const animal = “dog”
export default animal
```

How can we import animal in our code

a. Import { animal } from animal.js
b. Import animal from animal.js
c. None of the above
d. both

Since we’re doing export default, then we import it without { }. If we’re doing

export const animal = “dog”

Then we import it with (a)

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Additional JS materials

Optional Chaining

```
const students = [{ name: "Alice", age: 20 }];
students.forEach(student => {
  console.log("Age", student?.age);
});

console.log("Second Student Age",
students[1]?.age);
```

- ?. operator is to safeguard us from calling a function or accessing a property inside an undefined object.
- If we call it without ?. operator, then it will throw TypeError, because JS cannot execute `undefined.age`

Object Destructuring

```
function studentsAgeReducer2(acc, { age }) {
  return acc + age;
}

function averageAge2(students) {
  const totalAge = students.reduce(studentsAgeReducer2,
0);
  return totalAge / students.length;
}

const students = [
  { name: "Alice", age: 20 },
  { name: "Bob", age: 21 },
  { name: "Jane", age: 20 }
];
console.log(averageAge2(students));

const obj = { name: "Alice", age: 20 };
const { name, age } = obj;
console.log(name, age);
```

Shorthand Property Names

```
const students = [
 { name: "Alice", age: 20 },
 { name: "Bob", age: 21 },
 { name: "Jane", age: 20 }
]

const name = "John"
const age = 20
const newStudent = { name, age }

students.push(newStudent)
students.forEach((student) => {
 console.log(student.name)
})
```

Rest & Spread

```
const students = [
  { name: "Alice", age: 20 },
  { name: "Bob", age: 21 },
  { name: "Jane", age: 20 }
];

const name = "John";
const age = 20;
const newStudent = { name, age };

const newStudents = [...students, newStudent];
console.log(newStudents);
```

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Hands On

Exercise time!

Create a basic HTML page with 2 textboxes, email and password. After that. create a validation function that accepts email and password. The basic validation rules are:

1. email must be in email format
2. password cannot be less than 6 characters
3. Both field cannot be empty
4. ... add some more validation that you think necessary

(Optional) connect the 2 textboxes to the validation function

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Showcase Time!

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Q&A!

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Finally, Let’s Wrap Up!