

Traversing & manipulating

- Manipulating - creating, inserting, removing elements
- Traversing - selecting an element from other elements



DOM Tree

How to select DOM elements

selecting DOM Elements

1. `getElementById`,
2. `getElementsByClassName`,
3. `getElementsByTagName`,
4. `querySelector()`,
5. `querySelectorAll()`,



DOM Tree

3 direction for traversing

1. Downwards

1. `querySelector()` / `querySelectorAll()`
2. `children`

2. Upwards

1. `parentElement`

3. Sideways

1. `nextElementSibling`,
`previousElementSibling`
2. `parentElement + children + index`



DOM Tree

1. Downwards - querySelector / querySelectorAll

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
  </head>
  <body>
    <ol class="students-list">
      <li class="student-a">student A</li>
      <li class="student-b">student B</li>
      <li class="student-c">student C</li>
    </ol>

    <script src="./index.js"></script>
  </body>
</html>
```

`const studentsList = document.querySelector(".students-list");`
`const studentA = document.querySelector(".student-a");`

`const studentsList = document.querySelector(".students-list");`
`const studentA = studentsList.querySelector(".student-a");`

1. Downwards - childrens

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
  </head>
  <body>
    <ol class="students-list">
      <li class="student-a">student A</li>
      <li class="student-b">student B</li>
      <li class="student-c">student C</li>
    </ol>

    <script src="./index.js"></script>
  </body>
</html>
```

```
const studentsList = document.querySelector(".students-list");
// studentsList.children
const studentA = studentsList.children[0];
```

2. Upwards - parentElement

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
  </head>
  <body>
    <ol class="students-list">
      <li class="student-a">student A</li>
      <li class="student-b">student B</li>
      <li class="student-c">student C</li>
    </ol>

    <script src="./index.js"></script>
  </body>
</html>
```



```
const studentA = document.querySelector("li");
const studentsList = studentA.parentElement;
```

3. sideways - nextElementSibling, previousElementSibling

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
  </head>
  <body>
    <ol class="students-list">
      <li class="student-a">student A</li>
      <li class="student-b">student B</li>
      <li class="student-c">student C</li>
    </ol>

    <script src="./index.js"></script>
  </body>
</html>
```


```
const studentA = document.querySelector("li");
const studentB = studentA.nextElementSibling;
const studentC = studentB.nextElementSibling;
```

```
const studentC = document.querySelectorAll("li")[2];
const studentB = studentC.previousElementSibling;
```


3. sideways - parentElement + children + index

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
  </head>
  <body>
    <ol class="students-list">
      <li class="student-a">student A</li>
      <li class="student-b">student B</li>
      <li class="student-c">student C</li>
    </ol>

    <script src="./index.js"></script>
  </body>
</html>
```



```
const studentA = document.querySelector("li");
const studentsList = studentA.parentElement;
const studentC = studentsList.children[2];
```