Programming for Cloud

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Overview of the Lecture
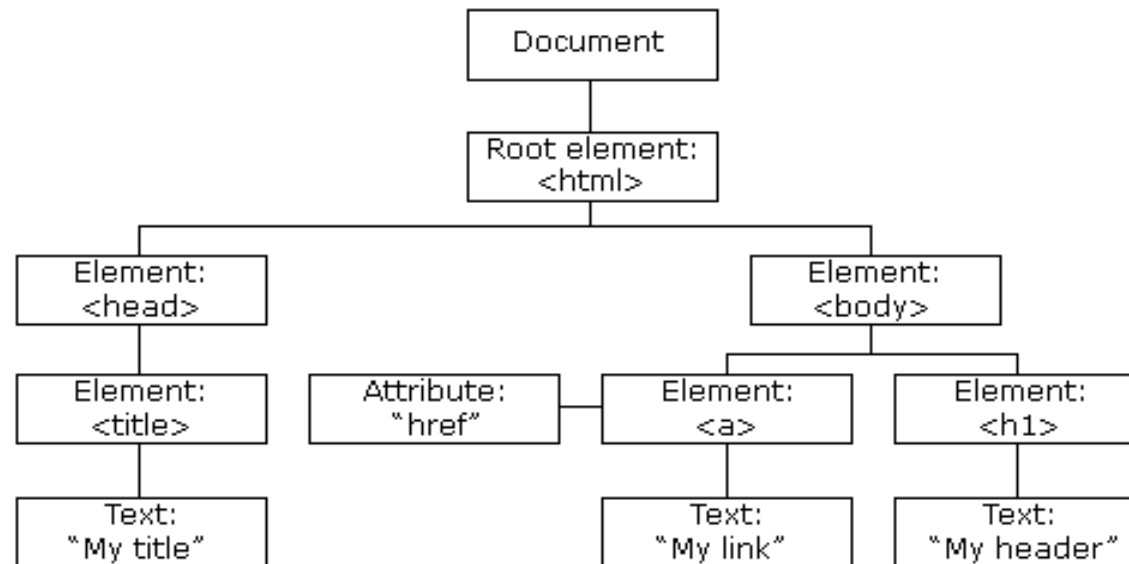
- HTML
- CSS
- Java Script
- Node.js
- Express

Document Object Model (DOM)

DOM (Document Object Model) is an API that represents and interacts with any HTML or XML document.

DOM represents the document /web page as a node tree, where each node represents part of the document.

DOM methods allow programmatic access to the tree and change the document's structure, style, or content.

HTML DOM

- HTML elements are represented as objects
- DOM provides methods to access all HTML elements
  - setAttribute - Sets the value of an attribute on the specified element.
  - getElementById -   returns an Element object representing the element whose id property matches the specified string.
  - getElementsByTagName – returns a HTML Collection of elements with the given tag name.
  - document.querySelector - returns the first Element within the document that matches the specified selector, or group of selectors.
- DOM provides access to properties of all HTML elements
  - innerHTML - Element property **innerHTML** gets or sets the HTML or XML markup contained within the element.
  - element.style.propertyName - used to get and set the styles on an element.
  - className - Gets and sets the value of the class attribute of the specified element.
  - Name - gets or sets the name property of an element in the DOM.

DOM Example programs

```
Docex1.html
<html>
<body>
    <p id="demo">SAMPLE</p>
 <script>
document.getElementById("demo").innerHTML = "Hello World!";
</script>
 </body>
</html>
```
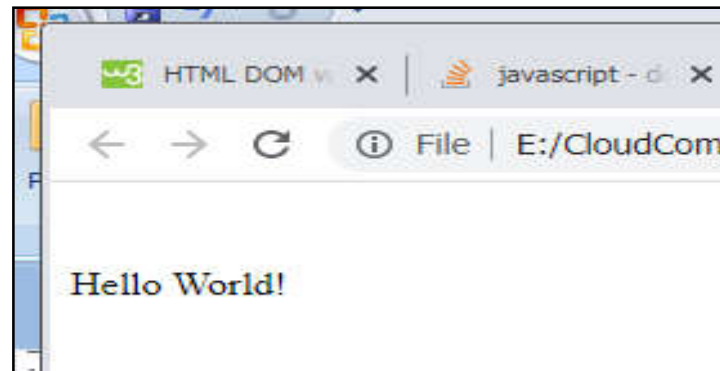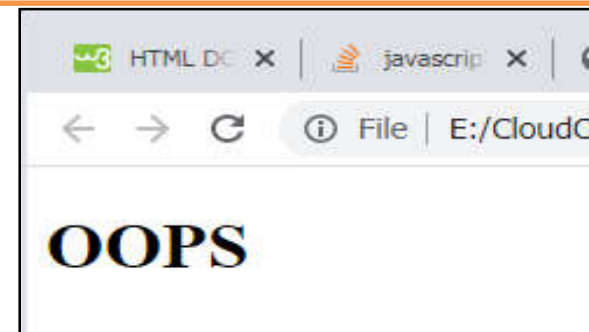
DOM Event

- DOM relates events to HTML elements
  - onclick - Event occurs when the user clicks on an element.
  - onmouseover - Event occurs when the pointer is moved onto an element, or onto one of its children.
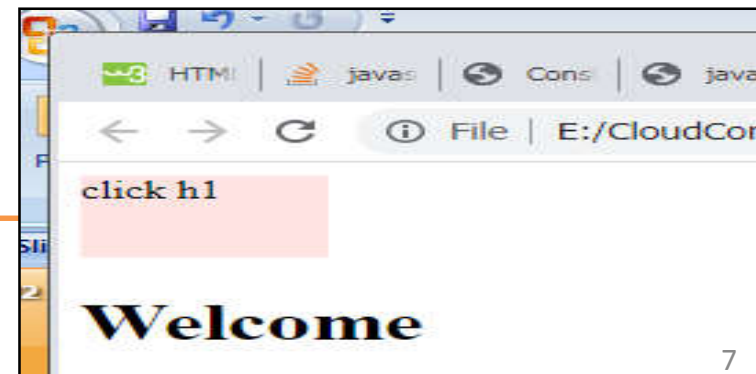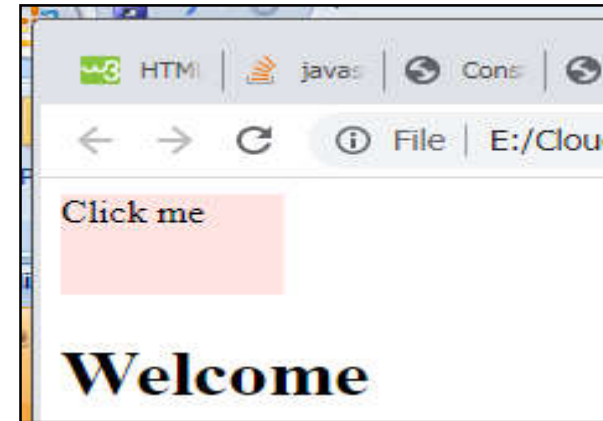 - onkeydown - Event occurs when the user is pressing a key.

dom_event.html

```html
<!DOCTYPE html>
<html>
  <body>
    <h1 onclick="this.innerHTML='OOPS'"> click on me </h1>
  </body>
</html>
```

OOPS

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DOM events

Dom_onmouse.html

```html
<!DOCTYPE html>
<html>
<body>
    <script>
        function mUp(obj1)
        {
            obj1.innerHTML="Thank You";
        }
        function fun1()
        {
            document.getElementById("box").innerHTML = "click h1" ;
        }
    </script>
  <div onmouseup="mUp(this)" style="backgroundcolor:mistyrose; width: 90px;
                      height: 50px;" id = "box">  Click me   </div>
  <h1 onclick = "fun1()" >  Welcome  </h1>
 </body>
</html>
```

JavaScript – addEventListener

➢ **addEventListener()** sets up a function that will be called whenever the specified event is delivered to the target. Common targets are Element, Document, and Window.

Dom_example2.html

```html
<!DOCTYPE html>
<html>
    <body>
        <h1 id="title" > Sample add event </h1>
        <div>
            <button> flower </button>
            <button> building </button>
            <img id="img1" src=" " alt ="img1" >
            <textarea id = "t1"> NULL </textarea>
        </div>
    <script src = "index_add_listen.js" > </script>
    </body>
</html>
```

index_add_listen.js

```javascript
button_array = document.querySelectorAll("button");
button_array[0].addEventListener("click", click_fun);
function click_fun()
{
    document.getElementById("img1").src="P1.jpg";
    document.getElementById("img1").height ="50";
    document.getElementById("img1").width ="50";

}
button_array[1].addEventListener("mouseover",mfun)
function mfun()
{
document.getElementById("t1").innerHTML = "Building"
}
```

Sample add event

flower | building | | Building

JavaScript Example programs

addEventListener() sets up a function that will be called whenever the specified event is delivered to the target. Common targets are Element, Document, and Window.

```
doc_table.html
<!DOCTYPE html>
<html>

    <body>

        <table id="tab">

            <tr>

                <td id ="t1">one</td>

                <td id ="t2">two</td>

            </tr>

        </table>

    </body>

 <script type = "text/javaScript" src ="table_update.js">

</script>

</html>
```
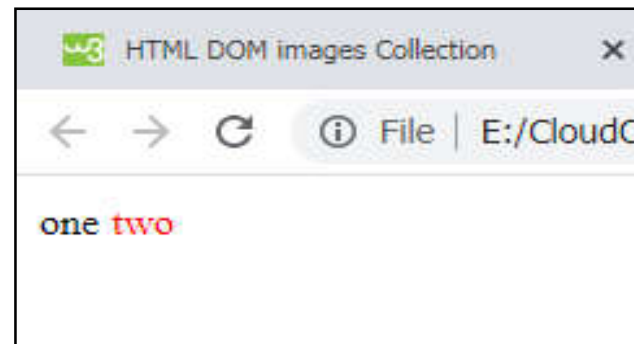
```
table_update.js

e1 = document.getElementById("tab");

e1.addEventListener("click",modifytext);

 function modifytext()

{

    t2 = document.getElementById("t2");

    t2.style.color = "red";

}
```

HTML DOM images Collection   ✕

← → C   ⓘ File | E:/CloudC

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Thank you