

## UNIT : 1

### Document Object Model

Reference :- HTML, JAVASCRIPT, DHTML AND PHP by IVAN BAYROSS  
Chapter :- 9 : The Javascript Document Object Model

1

## DOM : Introduction

- HTML page is rendered (painted) in a browser.
- Browser assembles all elements(objects) contained in HTML page, downloaded from web server.
- Once rendered browser no longer recognize individual HTML elements (objects).
- To create interactive web page browser should continue to recognize individual HTML elements
- Browser can access properties of these objects.

By : - Hetal Thaker 2

## DOM : Introduction

- Javascript enabled browser are capable of recognizing individual elements of HTML
- Javascript enabled browser uses DOM (Document Object Model).
- HTML objects (collection of web page elements) belongs to DOM and have descending relationship with each other.

By : - Hetal Thaker 3

## DOM : Introduction

- Top most object in DOM is **Navigator** (i.e. Browser)
- Next level in DOM is browser's **Window**.
- Next level in DOM is the **Document** displayed in browser's window.
- If document contains Form then next level is **Form**.
- Next level contains individual elements on a Form.
  - E.g. text boxes, radio buttons check boxes etc.
- Javascript's DOM is referred to as an **instance hierarchy**

By : - Hetal Thaker 4

## DOM : Introduction

- Window
  - Document
    - Anchor
    - Link
    - Form
      - textbox
      - textarea
      - radiobutton
      - checkbox
      - select
      - button

By : - Hetal Thaker 5

## DOM : Introduction

- Instance
  - Javascript enabled browser assembles HTML elements in memory prior being rendered in browser window.
  - If document doesn't have Anchors described, Anchors object will exist but it will be empty.
- Hierarchy
  - In addition to DOM, other objects recognized by Javascript enabled browser are plug-ins, Applets and images.
  - Every element of web page rendered in browser are not part of DOM.

By : - Hetal Thaker 6

## JSSS DOM

- Javascript Assisted Style Sheets DOM
  - Uses Javascript syntax to control document's presentation style.
  - When embedded within <HEAD>...</HEAD> Javascript DOM takes new set of objects which is added to the standard DOM objects.

By: - Hetal Thaker 7

## JSSS's DOM

- Window
  - Document
    - Tags
      - P
      - DIV
      - SPAN
      - H1 through H6
    - Classes
      - Tag names
    - IDs

By: - Hetal Thaker 8

## JSSS DOM

- Javascript understands Objects.
- Objects have
  - Properties → Determines functionality of object.
  - Methods → Allows access to these properties
  - Events → allows javascript code to be connected to the object by being mapped to appropriate javascript event handlers.
- Javascript is an Object-based programming language it is not fully object oriented.
- It doesn't support classification, Inheritance, encapsulation and information hiding.

By: - Hetal Thaker 9

## Objects in HTML

- Properties
  - Determines behavior/state of the object.
  - Can be referenced as:
    - ObjectName.PropertyName
    - E.g. textbox → name, size etc.
- Methods
  - To control state of the object at run time.
  - Used to set / get a value of object's property.
  - Can be referenced as:
    - ObjectName.MethodName

By: - Hetal Thaker 10

## Browser Objects

- When web page loads browser automatically creates no. of objects that map to the DOM.
- Javascript object created by [Netscape Communicator] are :

By: - Hetal Thaker 11

## Browser Objects

| Object Name | Use   |
|-------------|---|
| navigator   | To access information about the browser that is executing the current script.                                       |
| window      | To access a browser window or a frame within window.  |
| document    | To access the document currently loaded into a window.  |
| location    | To represent URL. Used to create a URL object, access parts of a URL, or modify an existing URL.                    |
| history     | To maintain a history of URL's accessed within a window.  |
| event       | To access information about the occurrence of an event.   |
| EVENT       | Provides constants that are used to identify events.  |
| screen      | To access information about size and color depth of a client computer's screen in which current browser is running. |

By: - Hetal Thaker 12