# Javascript

# Many lives of Javascript…..

# Why javascript is important for LWC

**8 ECMAScript standards**
to learn before building
**Lightning Web Components**

1. Decorators
2. DispatchEvent and CustomEvent
3. QuerySelectors
4. Import/Export
5. Spread Notation
6. Slots
7. Promises
8. String Interpolation + Let/Const

# Demo

Create a sample HTML page
- Console.log
- Variables declaration (const, var, let)
- Data Types
- String concatenation
- Object
- Arrays
- Functions
- ES6 spread syntax
- ES6 destructuring
- Classes
- Array - Advanced
  - Map function / Filter function

```javascript
// Printing msg in console
console.log("Welcome to SF Dev Training");
```

```javascript
//Objects
const SFTopics = {
    TopicName:'APEX Basics',
    TopicCategory:'APEX'
};
console.log(typeof SFTopics); // Gives type as object
console.log(typeof JSON.stringify(SFTopics)); // Shows type as string
console.log(`The topic ${SFTopics.TopicName} is categorized under ${SFTopics.TopicCategory}`); // String concatenation with back quote

//Array to hold SFTopics
const SFTopics_arr = [];
SFTopics_arr.push(SFTopics); // Adding a new element into array
console.log(SFTopics_arr[0].TopicName); // Accessing by index
console.log(SFTopics_arr.length); // Get array size
```

```javascript
// Loop thru array - Method 1
for(let i=0; i < SFTopics_arr.length; i++)
 {

    console.log('Method 1 -' + SFTopics_arr[i].TopicName);
 };

// Loop thru array - Method 2
SFTopics_arr.forEach(element => {
    console.log('Method 2 -' + element.TopicName);
});
```

```javascript
// Loop thru array - Method 3
for(let arritem of SFTopics_arr)
{

    console.log('Method 3 -' + arritem.TopicName);

}
```

```javascript
//Functions

addTopics("JS","LWC");
function addTopics(name,category)
{
    console.log(`The topic ${name} has been categorized under ${category}`);

}

addTopics("APEX Trigger","APEX");

//Functions - Method II
const addTopics_V2 = function (name,category){
    console.log(`V2 - The topic ${name} has been categorized under ${category}`);
} ;
addTopics_V2("APEX Trigger","APEX");
addTopics_V2("JS","LWC");

//Functions - Method III
const addTopics_V3 =  (name,category) => {
    console.log(`V3 - The topic ${name} has been categorized under ${category}`);

    //Create a object for each topic and move to array
    const SFNewTopic = {
        TopicName:name,
        TopicCategory:category
    };

    //Push to array
    SFTopics_arr.push(SFNewTopic);

} ;
addTopics_V3("APEX Trigger","APEX");
addTopics_V3("JS","LWC");

//Print SF Topics array
console.log(SFTopics_arr)
//console.log(SFTopics_arr.forEach(value,index) {console.log(value);});
```

```javascript
// Loop thru objects
for(let i=0; i < SFTopics_arr.length; i++)
 {

    for(let prop in SFTopics_arr[i]) // Loop thru each object in the array
    {

        let SFTopic = SFTopics_arr[i];
        console.log(`${prop} - ${SFTopic[prop]}`);

    }

};


// Loop thru objects within an array and get a new property array returned

const Topicnames = SFTopics_arr.map(function(arrayitem){

    return arrayitem.TopicName;

}) ;
console.log(Topicnames);
```

```javascript
//Comparison
const a = 6;
const b = "6";
console.log(a == b); // normal equals comparison . Return true
console.log(a === b); // Strict comparison . Return false
```

```javascript
// ES6 - spread syntax
// ES6 has lot of useful syntax which simplifies your code
// Say, you want to merge 2 arrays using spread syntax it can be done easily instead of
// looping thru arrays
const SFTopicsAPEX = [
    { TopicName:'APEX Basics',TopicCategory:"APEX"},
    {TopicName: "APEX Trigger", TopicCategory: "APEX"}
];
const SFTopicsLWC = [
    { TopicName:'JS',TopicCategory:"LWC"},
    {TopicName: "WEb components", TopicCategory: "LWC"}
];

const totaltopics = [...SFTopicsAPEX, ...SFTopicsLWC];
console.log('Spread Syntax' + totaltopics);

// ES6 - Destructing
// Say, you want to get only topic names from first 2 elements
// instead of looping totalTopics array
const [name,y] = [totaltopics]
console.log(name);
console.log(y);
```

# For Further Reading

https://www.javascripttutorial.net/es6/

https://trailhead.salesforce.com/en/content/learn/trails/learn-to-work-with-javascript

https://trailhead.salesforce.com/en/content/learn/modules/modern-javascript-development