

Array javascript:

An array is an object that can store multiple values at once, It is a linear data structure that is a collection of similar data types.

For Example,

```
Const words = ['hello', 'world', 'welcome'] ;
```

Here, `word` is an array. The array is storing 3 values.

Create an array:

You can create an array using 2 ways:

1.Using an array literal

The easiest way to create an array is by using an array literal `[]` .

For Example,

```
Const array1 = ["eat", "sleep"] ;
```

2.Using the new keyword

You can also create an array using javascript's `new` keyword.

For Example,

```
Const array1 = new Array("eat", "sleep") ;
```

In both of the above examples, we have created an array having two elements.

Working of Javascript Arrays:

In Javascript, an array is an object, And the indices of arrays are objects keys.

Since arrays are objects, the array elements are stored by reference. Hence, when an array value is copied, any change in the original array.

For Example,

```
Let arr = [ 'h' , 'e' ] ;
```

```
Let arr1 = arr;
```

```
arr1.push('1') ;
```

```
console.log(arr) ; // ["h", "e", "1",]
```

```
console.log(arr1) ; // ["h", "e", "1",]
```

You can also store values by passing a named key in an array.

For Example,

```
Let arr = [ 'h' , 'e' ] ;  
Let arr1 = 'john';  
console.log(arr) ; // ["h", "e"]  
console.log(arr. name); // "john"  
console.log(arr['name']); // "john"
```

Advantages of Array:

1. Arrays store multiple data of similar types with the same name.
2. It allows random access to elements.
3. As the array is of fixed size & stored in contiguous memory locations there is no memory shortage or overflow.
4. It is helpful to store any type of data with a fixed size.
5. Since the elements in the array are stored at contiguous memory locations it is easy to iterate in the data structure and unit time is required to access an element if the index is known.

Disadvantages of Array:

1. The size of the array should be known in advance.
2. The array is a static data structure with a fixed size so, the size of the array cannot be modified further and hence no modification can be done during runtime.
3. Insertion & deletion operations are costly in arrays as elements are stored in contiguous memory.
4. If the size of the declared array is more than the required size then, it can lead to memory wastage.

D/B Arrays & Objects:

Arrays	Objects
1. In Javascript, Arrays use Numbered Indexes.	1. In Javascript, Objects use Named Indexes.
2. An array is a subclass or super-prototype of object	2. Object is the superclass of Javascript everything comes under it even array too.
3. Arrays are denoted by [] square brackets	3. Objects are denoted by {} curly brackets
4. We can use arrays when we want the array element names to be numbers.	4. We can use objects when we want the element names to be strings (text).
5. An Object of "Array" is an object of "object"	5. An Object of "Object" is not an object of "Array" is an object.