

Web Application Development for Industrial Engineers

การพัฒนาแอปพลิเคชันสำหรับวิศวกรอุตสาหกรรม

What is a variable?

- A variable is a *container* for a value
- Things we can store.
 - Actually value: `1` / `"Text"` / `true`, ...
 - `Reference` (pointer) to an object

Declaring a variable

```
let myName;  
let myAge;
```

- All code instructions should end with a semi-colon.

Initializing a variable

```
let myName;  
myName = 'Chris';
```

or just

```
let myName = 'Chris';
```

Note about `var`

```
var myName;  
var myAge;
```

- Old way of declaring variable
- Error prone
 - [Hoisting](#)
 - Allowing multiple declarations
- *Not recommended*

Updating a variable

```
let myName = 'Chris';  
myName = 'Bob'; //Updating
```

Good variable naming

Good

```
age;  
myAge;  
init;  
initialColor;  
finalOutputValue;  
audio1;  
audio2;
```

Bad variable naming

```
1;  
a;  
_12;  
myage;  
MYAGE;  
var Document;  
skjfnbskjfnbdsjfb;  
thisisareallylongstupidvariablenameman;
```


Variable types

- Numbers
- Strings
- Booleans
- Arrays
- Objects

Numbers

```
let myAge = 17;  
console.log(typeof myAge); //number
```

Strings

- Strings are pieces of text.
- When you give a variable a string value, you need to wrap it in single or double quote marks.

```
let dolphinGoodbye = 'So long and thanks for all the fish';  
typeof dolphinGoodbye; //string
```

Booleans

- Booleans are `true` / `false` values.
- These are generally used to test a condition, after which code is run as appropriate.

```
let iAmAlive = true;  
let test = 6 < 3;  
typeof test; //boolean
```

Arrays

- An array is a single `object` that contains multiple values enclosed in square brackets and separated by commas.

```
let myNameArray = ['Chris', 'Bob', 'Jim'];  
let myNumberArray = [10, 15, 40];
```

- You can access each value by their location within the array.

```
myNameArray[0]; // should return 'Chris'  
myNumberArray[2]; // should return 40
```

Objects

- An object is a structure of code that models a real-life object.
- For example, an object that represents a box which contains
 - Width / Length / Height
- An object that represents a person which contains
 - Name / Height / Weight / Language / How to say hello

Object (cont)

- Declare an object

```
let dog = { name: 'Spot', breed: 'Dalmatian' };
```

- Retrieve the information stored in the object

```
console.log(dog.name);
```