App Development & Modelling

BSc in Applied Computing

Produced by

Eamonn de Leastar (edeleastar@wit.ie)

Department of Computing, Maths & Physics
Waterford Institute of Technology
http://www.wit.ie
http://elearning.wit.ie

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Objects

Creating & Using Objects

- The simplest way to create an object is either through:

  - the *object constructor*

  - the shorthand syntax known as *object literal.*

- Objects are *unordered key/value pairs*.

  - The *key* is formally known as a property and the value can be any valid JavaScript type, even another object.

- To create or access a property on an object, we use

  - *dot notation*

  - *bracket notation*

Creating Objects ...

Object
Constructor

```javascript
var person1 = new Object;

person1.firstName = "John";
person1.lastName = "Doe";
```

Object Literal

```javascript
var person2 =
{
  firstName: "Jane",
  lastName: "Doe"
};
```
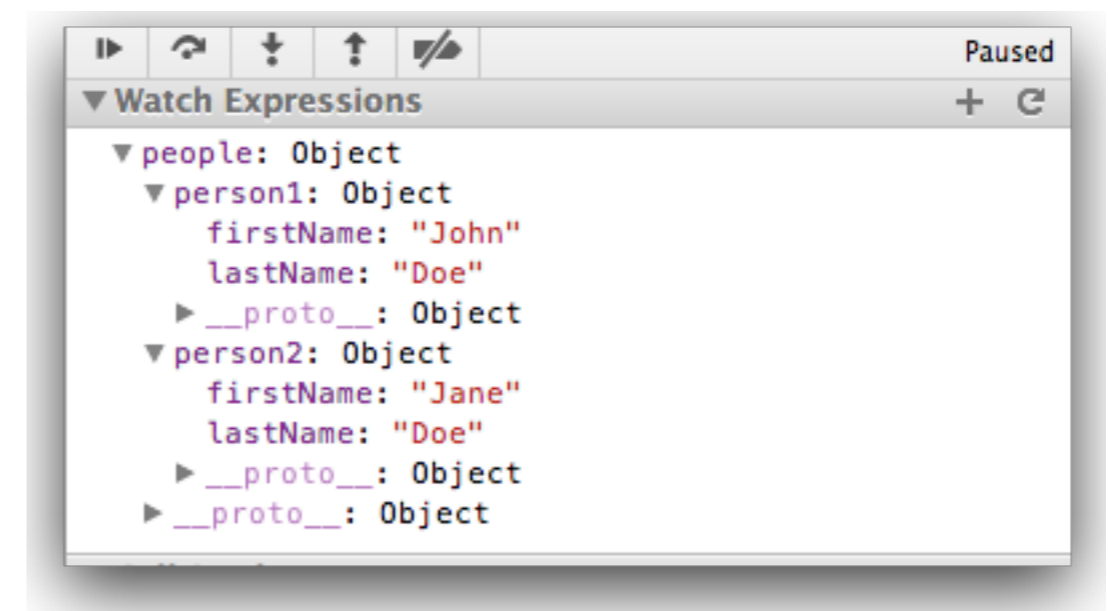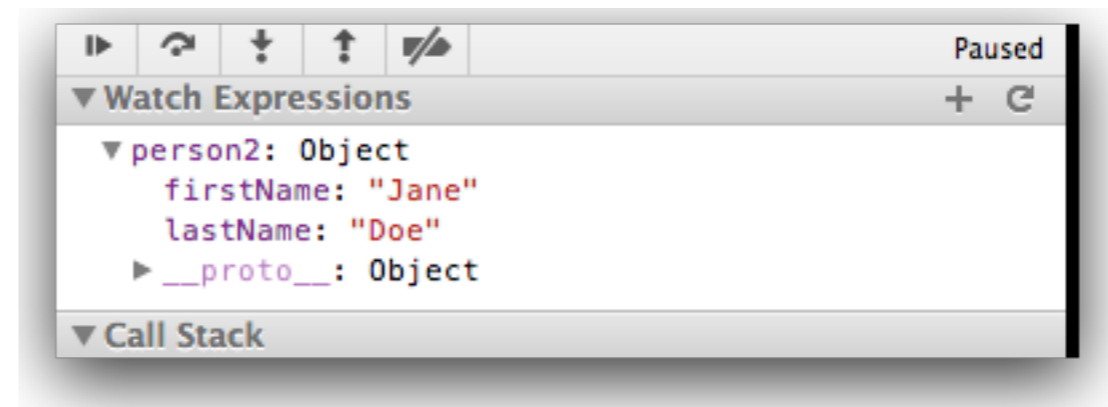
Using Objects...

Dot Notation

```
person1.firstName = "John";
person1.lastName = "Doe";
```

Bracket Notation

```
person['firstName'] = "Mary";
person['lastName'] = "Smith";
```

Tracing Objects

- Object structure and contents can be explored in detail in Chrome Developer Tools

Object Literals

- Objects contain one or more key-value pairs.

- The key portion can be any string.

- The value portion can be any type of value: a number, a string, an array, a function, or even another object.

- When one of these values is a function, it's called a method of the object. Otherwise, they are called properties.

```javascript
// Creating an object literal
var myObject =
{
  sayHello : function()
  {
    console.log("hello");
  },
  myName : "Rebecca"
};

myObject.sayHello(); // "hello"
console.log(myObject.myName); // "Rebecca"
```
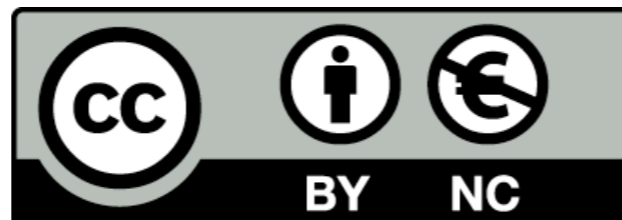
Object Literals

- When creating object literals, note that the key portion of each key-value pair can be written as any valid JavaScript identifier, a string (wrapped in quotes), or a number:

```
// test
var myObject =
{
  validIdentifier : 123,
  "some string"   : 456,
  99999           : 789
};
```

Exercise 5.6

- In your current project (called js-lab-2) create a file called 'objects.js' in the js folder. Create a HTML file to load this script.

- In objects.js bring in tje first code fragment in this page and run it. Then do the following:

  - Introduce a new field into the object called 'email'.

  - Initialise the email to some valid address

  - Log the email address

- Make a 'sendEmail' function also print out the email address as well as the name.

- Using this code as a guide, create a new object call myLocation. It should have location-name, latitude, longitude and description as its fields.

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