

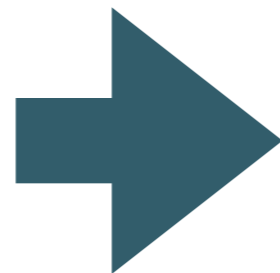
Nested objects

Advanced

Example 1

```
const schools = {  
  waterfordInstituteOfTechnology: {  
    address: 'Cork Road, Waterford',  
    phoneNumber: '(051) 894-2000',  
    dateEstablished: 'January, 1971',  
  }  
};
```

```
var wtObject = schools.waterfordInstituteOfTechnology;  
  
console.log(wtObject.address);  
console.log(wtObject.phoneNumber);  
console.log(wtObject.dateEstablished)
```



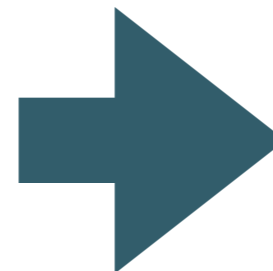
Cork Road, Waterford
(051) 894-2000
January, 1971

Example 2

```
const instructorData = {
  name: 'Frank',
  additionalData: {
    instructor: true,
    favoriteHobbies: ['Playing Cello', 'Tennis', 'Coding'],
    moreDetails: {
      favoriteTeam: 'Waterford Hurling',
      numberOfSiblings: 3,
      isYoungest: true,
      hometown: {
        city: 'Tramore',
        county: 'Waterford',
      },
      citiesLivedIn: ['Cork', 'Dublin', 'New York'],
    },
  },
};
```

```
const instructorData = {
  name: 'Frank',
  additionalData: {
    instructor: true,
    favoriteHobbies: ['Playing Cello', 'Tennis', 'Coding'],
    moreDetails: {
      favoriteTeam: 'Waterford Hurling',
      numberOfSiblings: 3,
      isYoungest: true,
      hometown: {
        city: 'Tramore',
        county: 'Waterford',
      },
      citiesLivedIn: ['Cork', 'Dublin', 'New York'],
    },
  },
};
```

```
console.log(instructorData.name);
console.log(instructorData.additionalData.instructor);
console.log(instructorData.additionalData.favoriteHobbies[2]);
console.log(instructorData.additionalData.moreDetails.favoriteTeam);
console.log(instructorData.additionalData.moreDetails.hometown.county);
console.log(instructorData.additionalData.moreDetails.citiesLivedIn[1]);
```



```
Mary
true
Coding
Waterford Hurling
Waterford
Dublin
```

Example 3

```
var programmingLanguages = {  
  java: {  
    yearCreated: 1995,  
    creator: 'James Gosling'  
  },  
  javascript: {  
    yearCreated: 1995,  
    creator: 'Brendan Eich'  
  }  
}
```

```
var programmingLanguages = {  
  java: {  
    yearCreated: 1995,  
    creator: 'James Gosling'  
  },  
  javascript: {  
    yearCreated: 1995,  
    creator: 'Brendan Eich'  
  }  
}
```

```
function addProgrammingLanguage(nameOfLanguage, yearLanguageCreated, creatorOfLanguage) {  
  // how can we access the programming languages object?  
  // We can't use dot notation, because we don't know the name of  
  // the key until the function is called.  
  // Instead we use bracket notation where the key is the  
  // nameOfLanguage that is being passed to the function.  
  programmingLanguages[nameOfLanguage] = {  
    // Creating the object which will be the value of the  
    // key. We can directly assign the yearLanguageCreated  
    // and creatorOfLanguage to the appropriate keys here.  
    yearCreated: yearLanguageCreated,  
    creator: creatorOfLanguage  
  }  
}
```

```
console.log(programmingLanguages);
```

Example 4

```
let nestedData = {  
  innerData: {  
    order: ['first', 'second', 'third'],  
    snacks: ['chips', 'fruit', 'crackers'],  
    numberData: {  
      primeNumbers: [2, 3, 5, 7, 11],  
      fibonnaci: [1, 1, 2, 3, 5, 8, 13]  
    },  
    addSnack: function (snack) {  
      this.snacks.push(snack);  
      return this;  
    }  
  }  
}
```

```
let nestedData = {
  innerData: {
    order: ['first', 'second', 'third'],
    snacks: ['chips', 'fruit', 'crackers'],
    numberData: {
      primeNumbers: [2, 3, 5, 7, 11],
      fibonacci: [1, 1, 2, 3, 5, 8, 13]
    },
    addSnack: function (snack) {
      this.snacks.push(snack);
      return this;
    }
  }
}
```

console.log all of the numbers in the primeNumbers array.

```
//
for (var i = 0; i < nestedData.innerData.numberData.primeNumbers.length; i++) {
  console.log(nestedData.innerData.numberData.primeNumbers[i])
}
```



```
let nestedData = {
  innerData: {
    order: ['first', 'second', 'third'],
    snacks: ['chips', 'fruit', 'crackers'],
    numberData: {
      primeNumbers: [2, 3, 5, 7, 11],
      fibonnaci: [1, 1, 2, 3, 5, 8, 13]
    },
    addSnack: function (snack) {
      this.snacks.push(snack);
      return this;
    }
  }
}
```

console.log all of the even Fibonnaci numbers

```
var fibArray = nestedData.innerData.numberData.fibonnaci

for (var i = 0; i < fibArray.length; i++) {
  if (fibArray[i] % 2 === 0) {
    console.log(fibArray[i])
  }
}
```

```
let nestedData = {  
  innerData: {  
    order: ['first', 'second', 'third'],  
    snacks: ['chips', 'fruit', 'crackers'],  
    numberData: {  
      primeNumbers: [2, 3, 5, 7, 11],  
      fibonnaci: [1, 1, 2, 3, 5, 8, 13]  
    },  
    addSnack: function (snack) {  
      this.snacks.push(snack);  
      return this;  
    }  
  }  
}
```

Console.log the value 'second' inside the order array.

```
console.log(nestedData.innerData.order[1])
```

```
let nestedData = {
  innerData: {
    order: ['first', 'second', 'third'],
    snacks: ['chips', 'fruit', 'crackers'],
    numberData: {
      primeNumbers: [2, 3, 5, 7, 11],
      fibonnaci: [1, 1, 2, 3, 5, 8, 13]
    },
    addSnack: function (snack) {
      this.snacks.push(snack);
      return this;
    }
  }
}
```

Invoke the addSnack function and add the snack 'chocolate'.

```
nestedData.innerData.addSnack('Chocolate')
```

Example 5

```
var nestedObject = {  
  speakers: [{name: 'Elie'}, {name: 'Tim'}, {name: 'Matt'}],  
  data: {  
    continents: {  
      europe: {  
        countries: {  
          switzerland: {  
            capital: 'Bern',  
            population: 8000000,  
          }  
        }  
      }  
    },  
    languages: {  
      spanish: {  
        hello: 'Hola',  
      },  
      french: {  
        hello: 'Bonjour',  
      }  
    }  
  }  
};
```

```
var nestedObject = {
  speakers: [{name: 'Elie'}, {name: 'Tim'}, {name: 'Matt'}],
  data: {
    continents: {
      europe: {
        countries: {
          switzerland: {
            capital: 'Bern',
            population: 8000000,
          }
        }
      }
    },
    languages: {
      spanish: {
        hello: 'Hola',
      },
      french: {
        hello: 'Bonjour',
      }
    }
  }
};
```

a function `addSpeaker` to add a speaker to the array of speakers is an object with a key of `name` and a value

```
function addSpeaker(speakerName) {
  nestedObject.speakers.push({
    name: speakerName
  })
}
```

```
var nestedObject = {
  speakers: [{name: 'Elie'}, {name: 'Tim'}, {name: 'Matt'}],
  data: {
    continents: {
      europe: {
        countries: {
          switzerland: {
            capital: 'Bern',
            population: 8000000,
          }
        }
      }
    },
    languages: {
      spanish: {
        hello: 'Hola',
      },
      french: {
        hello: 'Bonjour',
      }
    }
  }
};
```

Add a language to the languages object. The language object has a key with the name of the language and the value of another object with a key of "hello" and a value of however you spell "hello" in the language.

```
function addLanguage(language, helloInLanguage) {
  nestedObject.data.languages[language] = {
    hello: helloInLanguage
  }
}
```

```
var nestedObject = {
  speakers: [{name: 'Elie'}, {name: 'Tim'}, {name: 'Matt'}],
  data: {
    continents: {
      europe: {
        countries: {
          switzerland: {
            capital: 'Bern',
            population: 8000000,
          }
        }
      }
    },
    languages: {
      spanish: {
        hello: 'Hola',
      },
      french: {
        hello: 'Bonjour',
      }
    }
  }
};
```

add a European country to the countries object (inside of the continents object, inside of the countries object). The country is an object with the key as name of the country and the value as an object with the keys of "capital" and "population" and their respective values.

```
function addCountry(name, capital, population){
  nestedObject.data.continents.europe.countries[name] = {
    capital: capital,
    population: population
  }
}
```