C# Class Members

❮ Previous Next ❯

Class Members

Fields and methods inside classes are often referred to as "Class Members":

Example

Create a `Car` class with three class members: **two fields** and **one method**.

```
// The class
class MyClass
{
  // Class members
  public void fullThrottle()   // method
  {
    Console.WriteLine("The car is going as fast as it can!");
  }
}
```

Fields

In the previous chapter, you learned that variables inside a class are called fields, and that you can access them by creating an object of the class, and by using the dot syntax (`.`).

The following example will create an object of the `Car` class, with the name `myObj`. Then we print the value of the fields `color` and `maxSpeed`:

Example

```
class Car
{
  string color = "red";
  int maxSpeed = 200;

  static void Main(string[] args)
  {
    Car myObj = new Car();
    Console.WriteLine(myObj.color);
}
```

Run example »

You can also leave the fields blank, and modify them when creating the object:

Example

```
class Car
{
  string color;
  int maxSpeed;

  static void Main(string[] args)
  {
    Car myObj = new Car();
    myObj.color = "red";
    myObj.maxSpeed = 200;
    Console.WriteLine(myObj.color);
    Console.WriteLine(myObj.maxSpeed);
  }
}
```

Run example »

Example

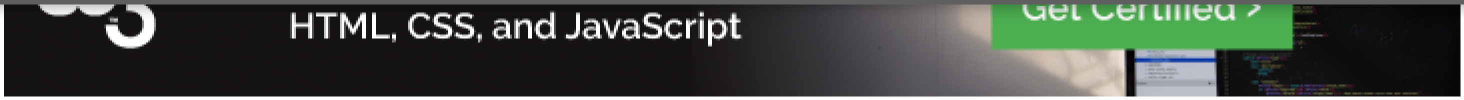
```
class Car
{
  string model;
  string color;
  int year;

  static void Main(string[] args)
  {
    Car Ford = new Car();
    Ford.model = "Mustang";
    Ford.color = "red";
    Ford.year = 1969;

    Car Opel = new Car();
    Opel.model = "Astra";
    Opel.color = "white";
    Opel.year = 2005;

    Console.WriteLine(Ford.model);
    Console.WriteLine(Opel.model);
  }
}
```

Run example »



Object Methods

You learned from the C# Methods chapter that methods are used to perform certain actions.

Methods normally belongs to a class, and they define how an object of a class behaves.

Just like with fields, you can access methods with the dot syntax. However, note that the method must be `public`. And remember that we use the name of the method followed by two parantheses `()` and a semicolon `;` to call (execute) the method:

Example

```
class Car
{
  string color;                 // field
  int maxSpeed;                 // field
  public void fullThrottle()    // method
  {
    Console.WriteLine("The car is going as fast as it can!");
  }

  static void Main(string[] args)
  {
    Car myObj = new Car();
}
```

Run example »

Why did we declare the method as `public`, and not `static`, like in the examples from the C# Methods Chapter?

The reason is simple: a `static` method can be accessed without creating an object of the class, while `public` methods can only be accessed by objects.

Use Multiple Classes

Remember from the last chapter, that we can use multiple classes for better organization (one for fields and methods, and another one for execution). This is recommended:

Car.cs

```
class Car
{
  public string model;
  public string color;
  public int year;
  public void fullThrottle()
  {
}
```

Program.cs

```
class Program
{
  static void Main(string[] args)
  {
    Car Ford = new Car();
    Ford.model = "Mustang";
    Ford.color = "red";
    Ford.year = 1969;

    Car Opel = new Car();
    Opel.model = "Astra";
    Opel.color = "white";
    Opel.year = 2005;

    Console.WriteLine(Ford.model);
    Console.WriteLine(Opel.model);
  }
}
```

Run example »

You will learn more about Access Modifiers in a later chapter.

Tip: As you continue to read, you will also learn more about other class members, such as constructors and properties.

❮ Previous Next ❯

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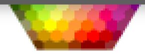

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