Java Inheritance

‹ Previous
Next ›

Java Inheritance (Subclass and Superclass)

In Java, it is possible to inherit attributes and methods from one class to another. We group the "inheritance concept" into two categories:

- **subclass** (child) - the class that inherits from another class
- **superclass** (parent) - the class being inherited from

To inherit from a class, use the `extends` keyword.

In the example below, the `Car` class (subclass) inherits the attributes and methods from the `Vehicle` class (superclass):

Example

```
class Vehicle {
  protected String brand = "Ford";        // Vehicle attribute
  public void honk() {                    // Vehicle method
    System.out.println("Tuut, tuut!");
  }
}
```

```
  private String modelName = "Mustang";    // Car attribute
  public static void main(String[] args) {

    // Create a myCar object
    Car myCar = new Car();

    // Call the honk() method (from the Vehicle class) on the myCar object
    myCar.honk();

    // Display the value of the brand attribute (from the Vehicle class) and the
    System.out.println(myCar.brand + " " + myCar.modelName);
  }
}
```

Try it Yourself »

Did you notice the `protected` modifier in Vehicle?

We set the **brand** attribute in **Vehicle** to a `protected` access modifier. If it was set to `private`, the Car class would not be able to access it.

Why And When To Use "Inheritance"?

- It is useful for code reusability: reuse attributes and methods of an existing class when you create a new class.

Tip: Also take a look at the next chapter, Polymorphism, which uses inherited methods to perform different tasks.

ADVERTISEMENT

The final Keyword

If you don't want other classes to inherit from a class, use the `final` keyword:

If you try to access a `final` class, Java will generate an error:

```
final class Vehicle {
  ...
}

class Car extends Vehicle {
  ...
}
```

The output will be something like this:

```
Main.java:9: error: cannot inherit from final Vehicle
class Main extends Vehicle {
                   ^
1 error)
```

Try it Yourself »

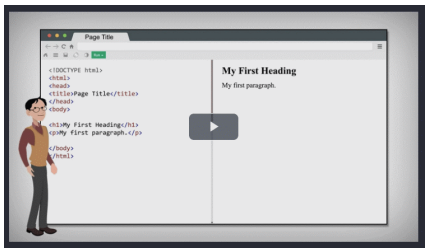
‹ Previous

Next ›

ADVERTISEMENT

NEW

We just launched
W3Schools videos



Explore now

COLOR PICKER

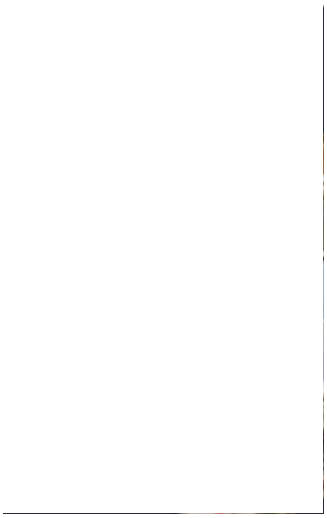
Get certified
by completing
a Java
course today!

Get started

CODE GAME

Play Game

ADVERTISEMENT



ADVERTISEMENT

ADVERTISEMENT

Report Error

Spaces

Pro

Buy Certificate

Top Tutorials

HTML Tutorial
CSS Tutorial
JavaScript Tutorial
How To Tutorial
SQL Tutorial
Python Tutorial
W3.CSS Tutorial
Bootstrap Tutorial

PHP Tutorial
Java Tutorial
C++ Tutorial
jQuery Tutorial

Top References

HTML Reference
CSS Reference
JavaScript Reference
SQL Reference
Python Reference
W3.CSS Reference
Bootstrap Reference
PHP Reference
HTML Colors
Java Reference
Angular Reference
jQuery Reference

Top Examples

HTML Examples
CSS Examples
JavaScript Examples
How To Examples
SQL Examples
Python Examples
W3.CSS Examples
Bootstrap Examples
PHP Examples
Java Examples
XML Examples
jQuery Examples

Get Certified

HTML Certificate
CSS Certificate
JavaScript Certificate
Front End Certificate
SQL Certificate
Python Certificate
PHP Certificate
jQuery Certificate
Java Certificate
C++ Certificate
C# Certificate
XML Certificate

FORUM | ABOUT

W3Schools is optimized for learning and training. Examples might be simplified to improve reading and learning. Tutorials, references, and examples are constantly reviewed to avoid errors, but we cannot warrant

full correctness of all content. While using W3Schools, you agree to have read and accepted our terms of use, cookie and privacy policy.

Copyright 1999-2022 by Refsnes Data. All Rights Reserved.
W3Schools is Powered by W3.CSS.