



Tutorials ▼

Exercises ▼

Certificates ▼

Services ▼

Search...



Get Certified

Sign Up

Log in

HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output

Java Comments

Java Variables

Java Data Types

Java Type Casting

Java Operators

Java Strings

Java Math

Java Booleans

Java If...Else

Java Switch

Java While Loop

Java For Loop

Java Break/Continue

Java Arrays

Java Methods

Java Methods

Java Method Parameters

Java Method Overloading

Java Type Casting

[< Previous](#)[Next >](#)

Java Type Casting

Type casting is when you assign a value of one primitive data type to another type.

In Java, there are two types of casting:

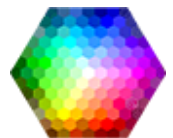
- **Widening Casting** (automatically) - converting a smaller type to a larger type size
`byte -> short -> char -> int -> long -> float -> double`
- **Narrowing Casting** (manually) - converting a larger type to a smaller size type
`double -> float -> long -> int -> char -> short -> byte`

Are you a teacher?

W3Schools Academy is now live!

[Read more!](#)

COLOR PICKER





Tutorials ▼

Exercises ▼

Certificates ▼

Services ▼



Get Certified

Sign Up

Log in

HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output

Java Comments

Java Variables

Java Data Types

Java Type Casting

Java Operators

Java Strings

Java Math

Java Booleans

Java If...Else

Java Switch

Java While Loop

Java For Loop

Java Break/Continue

Java Arrays

Java Methods

Java Methods

Java Method Parameters

Java Method Overloading

larger size type:

Example

Get your own Java Server

```
public class Main {  
    public static void main(String[] args) {  
        int myInt = 9;  
        double myDouble = myInt; // Automatic casting: int to double  
  
        System.out.println(myInt);    // Outputs 9  
        System.out.println(myDouble); // Outputs 9.0  
    }  
}
```

Try it Yourself »

Narrowing Casting

Narrowing casting must be done manually by placing the type in parentheses `()` in front of the value:



Tutorials ▼

Exercises ▼

Certificates ▼

Services ▼



Get Certified

Sign Up

Log in

HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output

Java Comments

Java Variables

Java Data Types

Java Type Casting

Java Operators

Java Strings

Java Math

Java Booleans

Java If...Else

Java Switch

Java While Loop

Java For Loop

Java Break/Continue

Java Arrays

Java Methods

Java Methods

Java Method Parameters

Java Method Overloading

```
public class Main {  
    public static void main(String[] args) {  
        double myDouble = 9.78d;  
        int myInt = (int) myDouble; // Manual casting: double to int  
  
        System.out.println(myDouble); // Outputs 9.78  
        System.out.println(myInt);    // Outputs 9  
    }  
}
```

Try it Yourself »

Real-Life Example

Here's a real-life example of type casting where we create a program to calculate the percentage of a user's score in relation to the maximum score in a game.

We use type casting to make sure that the result is a **floating-point** value, rather than an integer:

Example



Tutorials ▼

Exercises ▼

Certificates ▼

Services ▼



Get Certified

Sign Up

Log in

HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output

Java Comments

Java Variables

Java Data Types

Java Type Casting

Java Operators

Java Strings

Java Math

Java Booleans

Java If...Else

Java Switch

Java While Loop

Java For Loop

Java Break/Continue

Java Arrays

Java Methods

Java Methods

Java Method Parameters

Java Method Overloading

// The actual score of the user

`int userScore = 423;`/* Calculate the percentage of the user's score in relation to the maximum
Convert userScore to float to make sure that the division is accurate */`float percentage = (float) userScore / maxScore * 100.0f;``System.out.println("User's percentage is " + percentage);`

Try it Yourself »

Exercise ?

What is Type Casting?

- ☐ When you accidentally uses the wrong data type.
- ☐ When you assign a value of one primitive data type to another type.
- ☐ A concept that occurs when you are using constant variables.

[Tutorials](#) ▼[Exercises](#) ▼[Certificates](#) ▼[Services](#) ▼[Get Certified](#)[Sign Up](#)[Log in](#)[HTML](#)[CSS](#)[JAVASCRIPT](#)[SQL](#)[PYTHON](#)[JAVA](#)[PHP](#)[HOW TO](#)[W3.CSS](#)[C](#)[C++](#)[C#](#)[BOOTSTRAP](#)[REACT](#)

Java Tutorial

[Java HOME](#)[Java Intro](#)[Java Get Started](#)[Java Syntax](#)[Java Output](#)[Java Comments](#)[Java Variables](#)[Java Data Types](#)[Java Type Casting](#)[Java Operators](#)[Java Strings](#)[Java Math](#)[Java Booleans](#)[Java If...Else](#)[Java Switch](#)[Java While Loop](#)[Java For Loop](#)[Java Break/Continue](#)[Java Arrays](#)

Java Methods

[Java Methods](#)[Java Method Parameters](#)[Java Method Overloading](#)

Video: Java Type Casting

[◀ Previous](#)[Next ▶](#)

Track your progress - it's free!

[Sign Up](#)[Log in](#)



Tutorials ▼

Exercises ▼

Certificates ▼

Services ▼



Get Certified

Sign Up

Log in

HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

[Java HOME](#)[Java Intro](#)[Java Get Started](#)[Java Syntax](#)[Java Output](#)[Java Comments](#)[Java Variables](#)[Java Data Types](#)[Java Type Casting](#)[Java Operators](#)[Java Strings](#)[Java Math](#)[Java Booleans](#)[Java If...Else](#)[Java Switch](#)[Java While Loop](#)[Java For Loop](#)[Java Break/Continue](#)[Java Arrays](#)

Java Methods

[Java Methods](#)[Java Method Parameters](#)[Java Method Overloading](#)

PLUS

SPACES

GET CERTIFIED

FOR TEACHERS

FOR BUSINESS

CONTACT US

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 Examples

- [HTML Examples](#)
- [CSS Examples](#)
- [JavaScript Examples](#)
- [How To Examples](#)

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](#)

Get Certified

- [HTML Certificate](#)
- [CSS Certificate](#)
- [JavaScript Certificate](#)
- [Front End Certificate](#)



Tutorials ▼

Exercises ▼

Certificates ▼

Services ▼



Get Certified

Sign Up

Log in

HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output

Java Comments

Java Variables

Java Data Types

Java Type Casting

Java Operators

Java Strings

Java Math

Java Booleans

Java If...Else

Java Switch

Java While Loop

Java For Loop

Java Break/Continue

Java Arrays

Java Methods

Java Methods

Java Method Parameters

Java Method Overloading

XML Examples
jQuery ExamplesC# Certificate
XML Certificate

FORUM

ABOUT

ACADEMY

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 1999-2024 by Refsnes Data. All Rights Reserved. W3Schools is Powered by W3.CSS.

