Type Casting in Java

Casting is a process of changing one type value to another type. In Java, we can cast one type of value to another type. It is known as type casting.

Example :

int x = 10;

byte y = (byte)x;

In Java, type casting is classified into two types,

Widening Casting(Implicit)

byte ⟶ short → int → long → float → double

widening

Narrowing Casting(Explicitly done)

double ⟶ float → long → int → short → byte

Narrowing

Widening or Automatic type conversion

Automatic Type casting take place when, the two types are compatible the target type is larger than the source type.

Example:

```
class ImplicitTypeCasting
{
        public static void main(String[] args)
        {
                byte b = 100;
                short s = b;
                int i = b;
                long l = i;
                float f = l;
                double d = f;

                System.out.println("Byte value "+b);
                System.out.println("Short value "+s);
                System.out.println("Int value "+i);
                System.out.println("Long value "+l);
                System.out.println("Float value "+f);
                System.out.println("Double value "+d);
        }
}
```

Narrowing or Explicit type conversion

When you are assigning a larger type value to a variable of smaller type, then you need to perform explicit type casting. If we don't perform casting then compiler reports compile time error.

Example :

```
class ExplicitTypeCasting
{
        public static void main(String[] args)
        {
                double d = 100;

                float f = (float)d;

                long l = (long)f;

                int i = (int)l;

                short s = (short)i;

                byte b = (byte)s;

                System.out.println("Double value "+d);

                System.out.println("Float value "+f);

                System.out.println("Long value "+l);

                System.out.println("Int value "+i);

                System.out.println("Short value "+s);

                System.out.println("Byte value "+b);
        }
}
```