

Java: API

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- Application Programming Interface (API)
- In Java, it is a collection of packages, classes and interfaces that can be used in creating applications.
- Documentation of the Java API is also available [online](#).

Java® Platform, Standard Edition & Java Development Kit Version 11 API Specification

This document is divided into two sections:

Java SE

The Java Platform, Standard Edition (Java SE) APIs define the core Java platform for general-purpose computing. They start with `java`.

JDK

The Java Development Kit (JDK) APIs are specific to the JDK and will not necessarily be available in all Java SE modules. They are in modules whose names start with `jdk`.

All Modules

Java SE

JDK

Other Modules

Module	Description
<code>java.base</code>	Defines the foundational APIs of the Java SE Platform.
<code>java.compiler</code>	Defines the Language Model, Annotation Processing, and Java Compiler APIs.
<code>java.datatransfer</code>	Defines the API for transferring data between and within applications.
<code>java.desktop</code>	Defines the AWT and Swing user interface toolkits, plus APIs for accessibility, audio, and graphics.
<code>java.instrument</code>	Defines services that allow agents to instrument programs running on the JVM.
<code>java.logging</code>	Defines the Java Logging API.

Module `java.base`

Package `java.util`

Class Scanner

`java.lang.Object`

`java.util.Scanner`

All Implemented Interfaces:

`Closeable`, `AutoCloseable`, `Iterator<String>`

```
public final class Scanner
extends Object
implements Iterator<String>, Closeable
```

A simple text scanner which can parse primitive types and strings using regular expressions.

A Scanner breaks its input into tokens using a delimiter pattern, which by default matches whitespace. It provides methods for extracting the tokens in the input. It can also be configured to scan for other types using the various next methods.

For example, this code allows a user to read a number from `System.in`:

```
Scanner sc = new Scanner(System.in);
int i = sc.nextInt();
```

As another example, this code allows long types to be assigned from entries in a file `myNumbers`:

Module `java.base`

Package `java.util`

Class **Scanner**

`java.lang.Object`

`java.util.Scanner`

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Module `java.base`

Package `java.util`

package to import

Class Scanner

```
java.lang.Object  
    java.util.Scanner
```

All Implemented Interfaces:

`Closeable, AutoCloseable, Iterator<String>`

```
public final class Scanner  
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A simple text scanner which can parse primitive types and strings using regular expressions.

A Scanner breaks its input into tokens using a delimiter pattern, which by default matches whitespace. It provides methods for extracting the tokens in the input. It also provides methods for parsing primitive types using the various next methods.

For example, this code allows a user to read a number from `System.in`:

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Scanner sc = new Scanner(System.in);  
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As another example, this code allows long types to be assigned from entries in a file `myNumbers`:

Module java.base

Package java.util

Class Scanner

java.lang.Object

java.util.Scanner

All Implemented Interfaces:

Closeable, AutoCloseable, Iterator<String>

```
public final class Scanner
extends Object
implements Iterator<String>, Closeable
```

A simple text scanner which can parse primitive types and strings using regular expressions.

A Scanner breaks its input into tokens, a **description of the class** which by default matches whitespace, and the kinds of tokens. It can scan the input for primitive types using the various next methods.

For example, this code allows a user to read a number from System.in:

```
Scanner sc = new Scanner(System.in);
int i = sc.nextInt();
```

As another example, this code allows long types to be assigned from entries in a file myNumbers:

Constructor Summary

Constructors

Constructor	Description
<code>Scanner(File source)</code>	Constructs a new Scanner tha
<code>Scanner(File source, String charsetName)</code>	Constructs a new Scanner tha
<code>Scanner(File source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, String charsetName)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(Readable source)</code>	Constructs a new Scanner tha
<code>Scanner(String source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source, String charsetName)</code>	Constructs a new Scanner tha

Since:

1.5

earliest JDK version

Constructor Summary

Constructors

Constructor	Description
<code>Scanner(File source)</code>	Constructs a new Scanner tha
<code>Scanner(File source, String charsetName)</code>	Constructs a new Scanner tha
<code>Scanner(File source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, String charsetName)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(Readable source)</code>	Constructs a new Scanner tha
<code>Scanner(String source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source, String charsetName)</code>	Constructs a new Scanner tha

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<code>Scanner(File source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(Readable source)</code>	Constructs a new Scanner tha
<code>Scanner(String source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source)</code>	Constructs a new Scanner tha
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<code>Scanner(File source, String charsetName)</code>	Constructs a new Scanner tha
<code>Scanner(File source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, String charsetName)</code>	Constructs a new Scanner tha
<code>Scanner(InputStream source, Charset charset)</code>	Constructs a new Scanner tha
<code>Scanner(Readable source)</code>	Constructs a new Scanner tha
<code>Scanner(String source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source)</code>	Constructs a new Scanner tha
<code>Scanner(ReadableByteChannel source, String charsetName)</code>	Constructs a new Scanner tha

Constructor Summary

Constructors

Constructor	Description
<code>Scanner(File source)</code>	Constructs a new Scanner that scans the specified file.
<code>Scanner(File source, String charsetName)</code>	Constructs a new Scanner that scans the specified file using the specified charset name.
<code>Scanner(File source, Charset charset)</code>	Constructs a new Scanner that scans the specified file using the specified charset.
<code>Scanner(<u>InputStream source</u>)</code>	Constructs a new Scanner that scans the specified input stream.
<code>Scanner(InputStream source, String charsetName)</code>	Constructs a new Scanner that scans the specified input stream using the specified charset name.
<code>Scanner(InputStream source, Charset charset)</code>	Constructs a new Scanner that scans the specified input stream using the specified charset.
<code>Scanner(Readable source)</code>	Constructs a new Scanner that scans the specified readable.
<code>Scanner(String source)</code>	Constructs a new Scanner that scans the specified string.
<code>Scanner(ReadableByteChannel source)</code>	Constructs a new Scanner that scans the specified readable byte channel.
<code>Scanner(ReadableByteChannel source, String charsetName)</code>	Constructs a new Scanner that scans the specified readable byte channel using the specified charset name.

`System.in` (keyboard)

Method Summary

All Methods	Instance Methods	Concrete Methods
Modifier and Type	Method	Description
void	<code>close()</code>	Closes this scanner.
Pattern	<code>delimiter()</code>	Gets the delimiter pattern used for splitting input.
String	<code>next()</code>	Finds and returns the next complete token of the input sequence.
boolean	<code>nextBoolean()</code>	Scans the next token of the input into a boolean.
byte	<code>nextByte()</code>	Scans the next token of the input as a byte.
byte	<code>nextByte(int radix)</code>	Scans the next token of the input as a byte in the given radix.
double	<code>nextDouble()</code>	Scans the next token of the input as a double.
float	<code>nextFloat()</code>	Scans the next token of the input as a float.
int	<code>nextInt()</code>	Scans the next token of the input as an int.
int	<code>nextInt(int radix)</code>	Scans the next token of the input as an int in the given radix.
String	<code>nextLine()</code>	Advances this scanner past the current line and returns the line as a string.

Method Summary

All Methods	Instance Methods	Concrete Methods
Modifier and Type	Method	Description
void	<code>close()</code>	Closes this scanner.
<code>Pattern</code>	<code>delimiter()</code>	...
<code>String</code>	<code>next()</code>	Finds and returns the next complete to
boolean	<code>nextBoolean()</code>	Scans the next token of the input into a
byte	<code>nextByte()</code>	Scans the next token of the input as a b
byte	<code>nextByte(int radix)</code>	Scans the next token of the input as a b
double	<code>nextDouble()</code>	Scans the next token of the input as a d
float	<code>nextFloat()</code>	Scans the next token of the input as a f
int	<code>nextInt()</code>	Scans the next token of the input as an
int	<code>nextInt(int radix)</code>	Scans the next token of the input as an
<code>String</code>	<code>nextLine()</code>	Advances this scanner past the current

Method Summary

All Methods	Instance Methods	Concrete Methods
Modifier and Type	Method	Description
void	<code>close()</code>	Closes this scanner.
Pattern	<code>delimiter()</code>	Gets the delimiter pattern used for matching.
String	<code>next()</code>	Finds and returns the next complete token.
boolean	<code>nextBoolean()</code>	Scans the next token of the input into a boolean.
byte	<code>nextByte()</code>	Scans the next token of the input as a byte.
byte	<code>nextByte(int radix)</code>	Scans the next token of the input as a byte in the given radix.
double	<code>nextDouble()</code>	Scans the next token of the input as a double.
float	<code>nextFloat()</code>	Scans the next token of the input as a float.
int	<code>nextInt()</code>	Scans the next token of the input as an int.
int	<code>nextInt(int radix)</code>	Scans the next token of the input as an int in the given radix.
String	<code>nextLine()</code>	Advances this scanner past the current line and returns the next line of text.

Method Summary

All Methods	Instance Methods	Concrete Methods
Modifier and Type	Method	Description
void	<code>close()</code>	Closes this scanner.
Pattern	<code>delimiter()</code>	Gets the delimiter pattern used for splitting input.
String	<code>next()</code>	Finds and returns the next complete token of the input sequence.
boolean	<code>nextBoolean()</code>	Scans the next token of the input into a boolean.
byte	<code>nextByte()</code>	Scans the next token of the input as a byte.
byte	<code>nextByte(int radix)</code>	Scans the next token of the input as a byte in the given radix.
double	<code>nextDouble()</code>	Scans the next token of the input as a double.
float	<code>nextFloat()</code>	Scans the next token of the input as a float.
int	<code>nextInt()</code>	Scans the next token of the input as an int.
int	<code>nextInt(int radix)</code>	Scans the next token of the input as an int in the given radix.
String	<code>nextLine()</code>	Advances this scanner past the current line and returns the line as a string.


```
import java.util.*;
public class SimpleSample
{
    public static void main (String[] args)
    {
        Scanner kb = new Scanner (System.in);
        int nOne, nTwo;

        System.out.print ("Enter a number:  ");
        nOne = kb.nextInt ();

        System.out.print ("Enter another number:  ");
        nTwo = kb.nextInt ();

        System.out.println ("Sum is " + (nOne + nTwo));
        kb.close ();
    }
}
```

```
import java.util.*;
public class SimpleSample
{
    public static void main (String[] args)
```

Package java.util

Class **Scanner**

```
Scanner kb = new Scanner (System.in);
int nOne, nTwo;
```

```
System.out.print ("Enter a number: ");
nOne = kb.nextInt ();
```

```
System.out.print ("Enter another number: ");
nTwo = kb.nextInt ();
```

```
System.out.println ("Sum is " + (nOne + nTwo));
kb.close ();
```

```
}
}
```

```
import java.util.*;  
public class SimpleSample  
{  
    public static void main (String[] args)
```

Package java.util
Class Scanner

```
        Scanner kb = new Scanner (System.in);  
        int nOne, nTwo;
```

```
  
        System.out.print ("Enter a number: ");  
        nOne = kb.nextInt ();
```

```
  
        System.out.print ("Enter another number: ");  
        nTwo = kb.nextInt ();
```

```
  
        System.out.println ("Sum is " + (nOne + nTwo));  
        kb.close ();
```

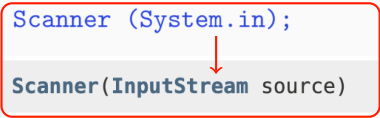
```
    }  
}
```

```
import java.util.*;
public class SimpleSample
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        Scanner kb = new Scanner (System.in);
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        System.out.print ("Enter a number:  ");
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        nTwo = kb.nextInt ();

        System.out.println ("Sum is " + (nOne + nTwo));
        kb.close ();
    }
}
```



A red rectangular box highlights the constructor signature `Scanner (InputStream source)`. A red arrow points from the `System.in` argument in the line `Scanner kb = new Scanner (System.in);` down to the `InputStream` parameter in the constructor signature.

```
import java.util.*;
public class SimpleSample
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    public static void main (String[] args)
    {
        Scanner kb = new Scanner (System.in);
        int nOne, nTwo;

        System.out.print ("Enter a number: ");
        nOne = kb.nextInt ();

        int      nextInt()

        System.out.print ("Enter another number: ");
        nTwo = kb.nextInt ();

        System.out.println ("Sum is " + (nOne + nTwo));
        kb.close ();
    }
}
```

```
import java.util.*;
public class SimpleSample
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    {
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        int nOne, nTwo;

        System.out.print ("Enter a number: ");
        nOne = kb.nextInt ();

        System.out.print ("Enter another number: ");
        nTwo = kb.nextInt ();

        System.out.println ("Sum is " + (nOne + nTwo));
        kb.close ();
    }
}
```

```
void      close()
```

😊 Thank you! 😊