

3. Стандартни библиотеки: Java-API

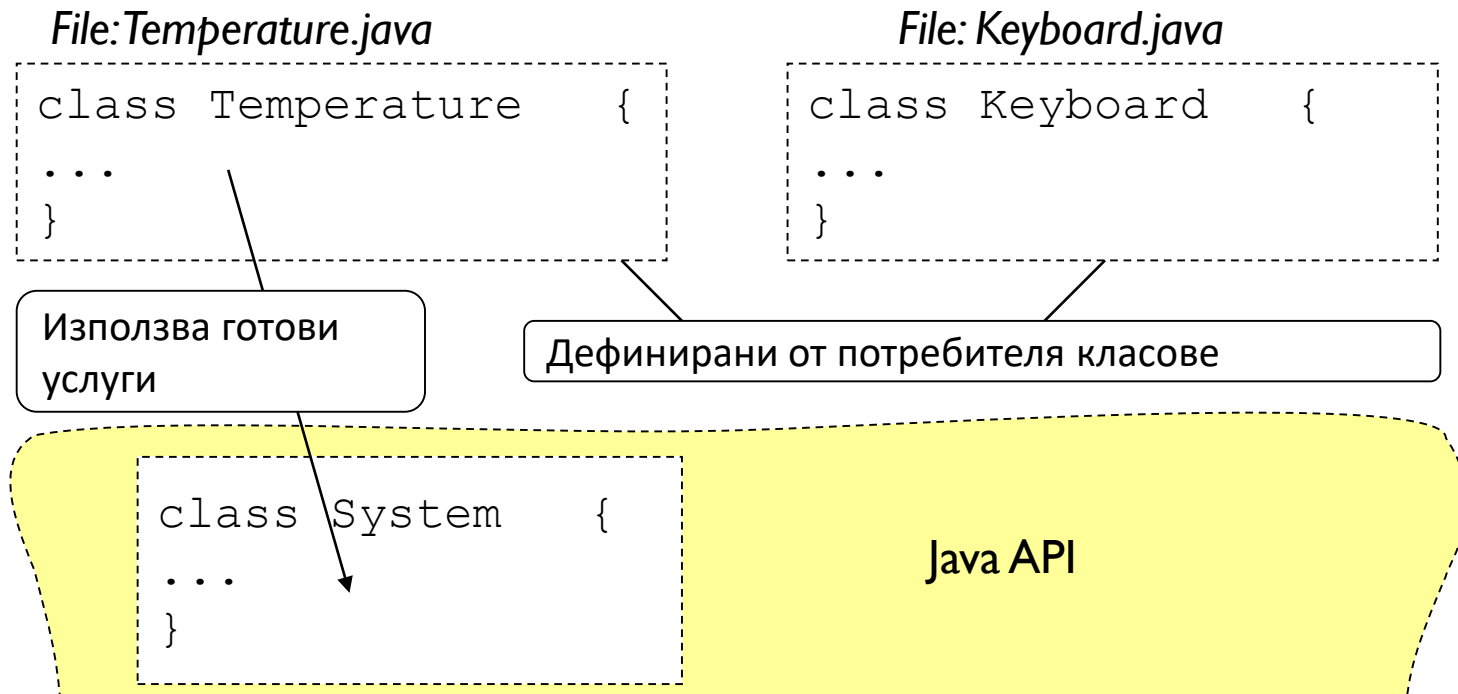
Лекционен курс “Програмиране на Java”
проф. д-р Станимир Стоянов

Структура на лекцията

- ▶ Дефиниция на API
- ▶ Организация на Java-API
- ▶ Примери
- ▶ Import оператор

API: Application Programming Interface

- Множество от предварително дефинирани компоненти, принадлежащи към всяка система (компилятор) на Java
- Стандартна библиотека

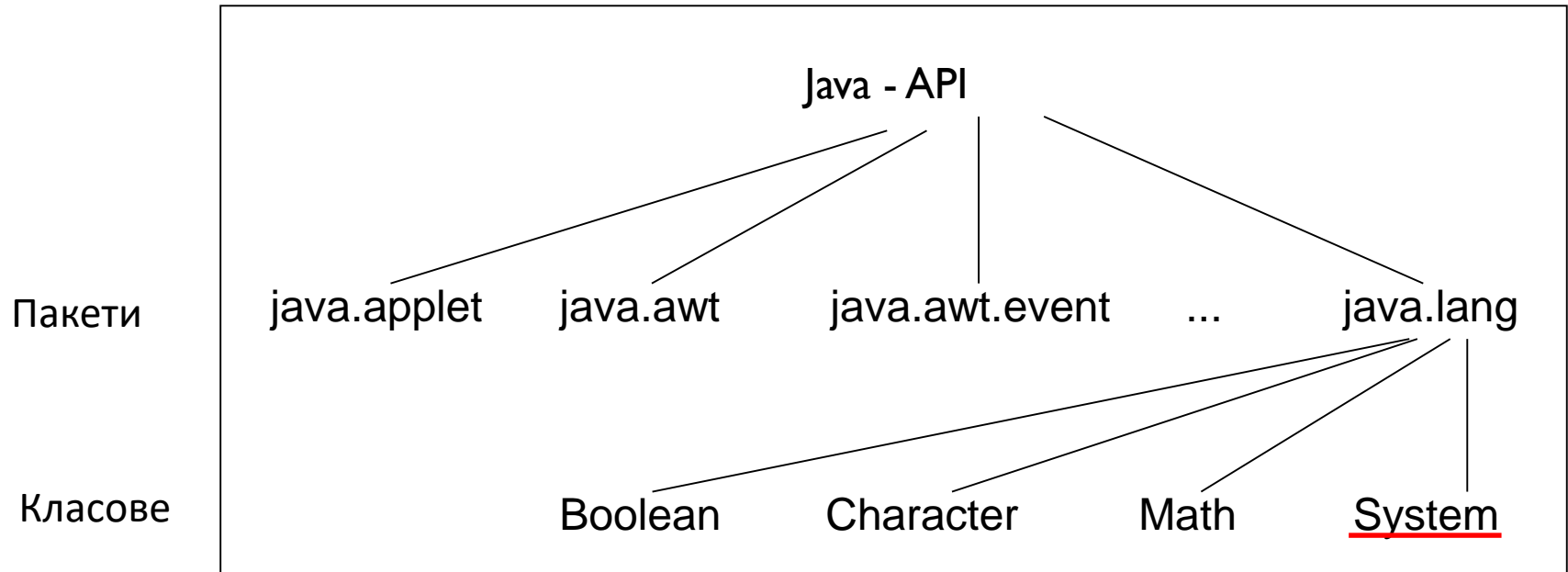


Брой на стандартните класове в Java API

Java Development Kits	Codename	Release	Packages	Classes
Java SE 8 with JDK 1.8.0	---	2014	217	4,240
Java SE 7 with JDK 1.7.0	Dolphin	2011	209	4,024
Java SE 6 with JDK 1.6.0	Mustang	2006	203	3,793
Java 2 SE 5.0 with JDK 1.5.0	Tiger	2004	166	3,279
Java 2 SE with SDK 1.4.0	Merlin	2002	135	2,991
Java 2 SE with SDK 1.3	Kestrel	2000	76	1,842
Java 2 with SDK 1.2	Playground	1998	59	1,520
Development Kit 1.1	---	1997	23	504
Development Kit 1.0	Oak	1996	8	212

Организация на Java-API

→ Web-Site: JDK 7.0 Documentation



Пакети:
Набор от класове

Класове:
Софтуерни компоненти

Име на пакет (напр. java.awt.event) отразява имена на директории:

→ /java/awt/event

Packages

java.applet
java.awt
java.awt.color
java.awt.datatransfer
java.awt.dnd
java.awt.event
java.awt.font
java.awt.geom
java.awt.im
java.awt.im.spi
java.awt.image
java.awt.image.renderable
java.awt.print
java.beans
java.beans.beancontext
java.io
java.lang
java.lang.annotation
java.lang.instrument
java.lang.invoke
java.lang.management
java.lang.ref
java.lang.reflect
java.math
java.net
java.nio
java.nio.channels

All Classes

AbstractAction
AbstractAnnotationValueVisitor6
AbstractAnnotationValueVisitor7
AbstractBorder
AbstractButton
AbstractCellEditor
AbstractCollection
AbstractColorChooserPanel
AbstractDocument
AbstractDocument.AttributeContext
AbstractDocument.Content

Java™ Platform, Standard Edition 7 API Specification

This document is the API specification for the Java™ Platform, Standard Edition.

See: Description

Packages

Package	Description
java.applet	Provides the classes necessary to create an applet and the classes an applet uses to communicate with its applet context.
java.awt	Contains all of the classes for creating user interfaces and for painting graphics and images.
java.awt.color	Provides classes for color spaces.
java.awt.datatransfer	Provides interfaces and classes for transferring data between and within applications.
java.awt.dnd	Drag and Drop is a direct manipulation gesture found in many Graphical User Interface systems that provides a mechanism to transfer information between two entities logically associated with presentation elements in the GUI.
java.awt.event	Provides interfaces and classes for dealing with different types of events fired by AWT components.
java.awt.font	Provides classes and interface relating to fonts.
java.awt.geom	Provides the Java 2D classes for defining and performing operations on objects related to two-dimensional geometry.
java.awt.im	Provides classes and interfaces for the input method framework.
java.awt.im.spi	Provides interfaces that enable the development of input methods that can be used with any Java runtime environment.
java.awt.image	Provides classes for creating and modifying images.
java.awt.image.renderable	Provides classes and interfaces for producing rendering-independent images.
java.awt.print	Provides classes and interfaces for a general printing API.
java.beans	Contains classes related to developing <i>beans</i> – components based on the JavaBeans™ architecture.
java.beans.beancontext	Provides classes and interfaces relating to bean context.
java.io	Provides for system input and output through data streams, serialization and the file system.

Пример: Изходни функции (като API)

API:

пакет java.lang

```
class System {  
    public static final PrintStream out;  
    ...  
}
```

пакет java.io

```
class PrintStream {  
    print (String s) ...  
    print (double f) ...  
    print (float f) ...  
    print (int i) ...  
    println (String s) ...  
    ...  
}
```

Приложение: в потребителски програми

```
System.out.print(" deg F is ");  
System.out.print(12.5);  
System.out.println(" deg C ");
```

Import на пакети и класове

Пълно име на клас:

Име_пакет.име_клас

```
class Example {  
    public static void main ( ... ) {  
        java.util.Date d = new java.util.Date() ;  
        Date d = new Date ( ) ;  
        java.lang.System.out.print(...);  
        System.out.print(...);  
    }  
}
```

Непрегледен начин на
записване

Import-оператор: име на пакет може да отпадне

```
import java.util.*;
```

Всички класове на пакета

```
import java.util.Date;
```

Само клас 'Date'

```
import java.lang.*;
```

Стандартно

```
class Example {  
    public static void main ( ... ) {  
        java.util.Date d = new java.util.Date();  
        Date d = new Date( )  
        java.lang.System.out.print(...);  
        System.out.print(...);  
    }  
}
```

кратък

кратък

Благодаря за вниманието!

Край лекция 3. “Стандартни библиотеки: Java-API”