| [Expand All]

Added in API level 1

Summary: Fields | Ctors | Methods | Inherited Methods public class

extends Object implements

Serializable Comparable<T>

java.lang.Object

↳ java.io.File

Class Overview

An "abstract" representation of a file system entity identified by a pathname. The pathname may be absolute (relative to the root directory of the file system) or relative to the current directory in which the program is running.

The actual file referenced by a File may or may not exist. It may also, despite the name File, be a directory or other non-regular file.

This class provides limited functionality for getting/setting file permissions, file type, and last modified time.

On Android strings are converted to UTF-8 byte sequences when sending filenames to the operating system, and byte sequences returned by the operating system (from the various list methods) are converted to strings by decoding them as UTF-8 byte sequences.

See Also

Serializable Comparable

Summary

_	•		
ы	ıe	d	S

public static final String pathSeparator

The system-dependent string used to separate components in search

paths (":").

public static final char pathSeparatorChar

The system-dependent character used to separate components in search paths ('?).

1 of 20 02/14/2014 02:09 PM public static final String separator

The system-dependent string used to separate components in filenames ('/').

public static final char separatorChar

The system-dependent character used to separate components in filenames ('/').

Public Constructors

File (File dir, String name)

Constructs a new file using the specified directory and name.

File (String path)

Constructs a new file using the specified path.

File (String dirPath, String name)

Constructs a new File using the specified directory path and file name, placing a path separator between the two.

File (URI uri)

Constructs a new File using the path of the specified URI.

Public Methods

canExecute()

boolean Tests whether or not this process is allowed to execute this file.

canRead()

boolean Indicates whether the current context is allowed to read from this file.

canWrite()

boolean Indicates whether the current context is allowed to write to this file.

compareTo (File another)

int Returns the relative sort ordering of the paths for this file and the file another.

createNewFile()

boolean Creates a new, empty file on the file system according to the path information stored in this file.

createTempFile (String prefix, String suffix, File directory)

static File Creates an empty temporary file in the given directory using the given prefix and suffix as part of the file name.

createTempFile (String prefix, String suffix)

static File Creates an empty temporary file using the given prefix and suffix as part of the file name.

```
boolean delete ()
          Deletes this file.
        deleteOnExit()
   void Schedules this file to be automatically deleted when
           the VM terminates normally.
        equals (Object obj)
           Compares obj to this file and returns true if they
boolean
           represent the same object using a path specific
           comparison.
        exists()
boolean
           Returns a boolean indicating whether this file can be
           found on the underlying file system.
         getAbsoluteFile()
    File Returns a new file constructed using the absolute
           path of this file.
  getAbsolutePath ()
           Returns the absolute path of this file.
        getCanonicalFile()
    File Returns a new file created using the canonical path of
           this file.
  String getCanonicalPath()
           Returns the canonical path of this file.
        getFreeSpace()
   long
          Returns the number of free bytes on the partition
           containing this path.
        getName()
  String
           Returns the name of the file or directory represented
           by this file.
  String getParent ()
           Returns the pathname of the parent of this file.
        getParentFile()
    File Returns a new file made from the pathname of the
           parent of this file.
  String getPath ()
           Returns the path of this file.
        getTotalSpace()
   long Returns the total size in bytes of the partition
           containing this path.
        getUsableSpace()
   long
           Returns the number of usable free bytes on the
           partition containing this path.
```

hashCode()

Returns an integer hash code for the receiver.

isAbsolute()

boolean

Indicates if this file's pathname is absolute.

isDirectory()

boolean Indicates if this file represents a *directory* on the underlying file system.

isFile()

boolean Indicates if this file represents a *file* on the underlying file system.

isHidden()

boolean Returns whether or not this file is a hidden file as defined by the operating system.

lastModified()

long Returns the time when this file was last modified, measured in milliseconds since January 1st, 1970, midnight.

length ()

Returns the length of this file in bytes.

list()

String[] Returns an array of strings with the file names in the directory represented by this file.

list (FilenameFilter filter)

String[] Gets a list of the files in the directory represented by this file.

listFiles()

File Returns an array of files contained in the directory represented by this file.

listFiles (FilenameFilter filter)

File Gets a list of the files in the directory represented by this file.

listFiles (FileFilter filter)

File Gets a list of the files in the directory represented by this file.

, listRoots()

static File[] "`

Returns the file system roots.

mkdir()

boolean Creates the directory named by this file, assuming its parents exist.

mkdirs()

boolean Creates the directory named by this file, creating missing parent directories if necessary.

```
renameTo (File newPath)
boolean
          Renames this file to newPath.
        setExecutable (boolean executable)
boolean
          Equivalent to setExecutable(executable, true).
        setExecutable (boolean executable, boolean ownerOnly)
boolean
          Manipulates the execute permissions for the abstract
          path designated by this file.
        setLastModified (long time)
boolean
          Sets the time this file was last modified, measured in
          milliseconds since January 1st, 1970, midnight.
        setReadOnly()
boolean
          Equivalent to setWritable(false, false).
        setReadable (boolean readable)
boolean
          Equivalent to setReadable(readable, true).
        setReadable (boolean readable, boolean ownerOnly)
boolean
          Manipulates the read permissions for the abstract
          path designated by this file.
        setWritable (boolean writable, boolean ownerOnly)
boolean
          Manipulates the write permissions for the abstract
          path designated by this file.
        setWritable (boolean writable)
boolean
          Equivalent to setWritable(writable, true).
        toString()
  String
          Returns a string containing a concise, human-readable
          description of this file.
   URI toURI()
          Returns a Uniform Resource Identifier for this file.
        toURL()
   URL
          This method was deprecated in API level 9. Use toURI()
          and toURL() to correctly escape illegal characters.
    Inherited Methods
                             [Expand]
```

- ► From class java.lang.Object
- ▶ From interface java.lang.Comparable

Fields

public static final String pathSeparator

Added in API level 1

The system-dependent string used to separate components in search paths ("."). See pathseparatorChar (/reference/java/io

/File.html#pathSeparatorChar).

public static final char pathSeparatorChar

Added in API level 1

The system-dependent character used to separate components in search paths (':). This is used to split such things as the PATH environment variable and classpath system properties into lists of directories to be searched.

This field is initialized from the system property "path.separator". Later changes to that property will have no effect on this field or this class.

public static final String separator

Added in API level 1

The system-dependent string used to separate components in filenames ('/'). See <u>separatorChar (/reference/java/io /File.html#separatorChar)</u>.

public static final char separatorChar

Added in <u>API level 1</u>

The system-dependent character used to separate components in filenames ('/'). Use of this (rather than hard-coding '/') helps portability to other operating systems.

This field is initialized from the system property "file.separator". Later changes to that property will have no effect on this field or this class.

Public Constructors

public File (File dir, String name)

Added in API level 1

Constructs a new file using the specified directory and name.

Parameters

dir the directory where the file is stored.

name the file's name.

Throws

NullPointerException if name is null.

public File (String path)

Added in API level 1

Constructs a new file using the specified path.

Parameters

path the path to be used for the file.

public **File** (<u>String</u> dirPath, <u>String</u> name)

Added in API level 1

Constructs a new File using the specified directory path and file name, placing a path separator between the two.

Parameters

dirPath the path to the directory where the file is stored.

name the file's name.

Throws

<u>NullPointerException</u> if name == null.

public File (URI uri)

Added in API level 1

Constructs a new File using the path of the specified URI. urineeds to be an absolute and hierarchical Unified Resource Identifier with file scheme and non-empty path component, but with undefined authority, query or fragment components.

Parameters

uri the Unified Resource Identifier that is used to construct this file.

Throws

<u>IllegalArgumentException</u> if uri does not comply with the conditions above.

See Also

toURI()

<u>URI</u>

Public Methods

public boolean canExecute ()

Added in API level 9

Tests whether or not this process is allowed to execute this file. Note that this is a best-effort result; the only way to be certain is to actually attempt the operation.

Returns

true if this file can be executed, false otherwise.

public boolean canRead ()

Added in API level 1

Indicates whether the current context is allowed to read from this file.

Returns

true if this file can be read, false otherwise.

public boolean canWrite ()

Added in API level 1

Indicates whether the current context is allowed to write to this file.

Returns

true if this file can be written, false otherwise.

public int **compareTo** (File another)

Added in API level 1

Returns the relative sort ordering of the paths for this file and the file another. The ordering is platform dependent.

Parameters

another a file to compare this file to

Returns

an int determined by comparing the two paths. Possible values are described in the Comparable interface.

See Also

Comparable

public boolean createNewFile ()

Added in API level 1

Creates a new, empty file on the file system according to the path information stored in this file. This method returns true if it creates a file, false if the file already existed. Note that it returns false even if the file is not a file (because it's a directory, say).

This method is not generally useful. For creating temporary files, use createTempFile (String) (/reference/java/io /File.html#createTempFile(java.lang.String, java.lang.String)) instead. For reading/writing files, use FileInputStream (/reference/java/io/FileInputStream.html), FileOutputStream (/reference/java/io/FileOutputStream.html), or RandomAccessFile (/reference/java/io/RandomAccessFile.html), all of which can create files.

Note that this method does not throw IOException if the file

already exists, even if it's not a regular file. Callers should always check the return value, and may additionally want to call <u>isFile()</u>
(/reference/java/io/File.html#isFile())

Returns

true if the file has been created, false if it already exists.

Throws

<u>IOException</u> if it's not possible to create the file.

public static <u>File</u> **createTempFile** (<u>String</u> prefix, <u>String</u> suffix, <u>File</u> directory)

Added in API level 1

Creates an empty temporary file in the given directory using the given prefix and suffix as part of the file name. If suffix is null, .tmp is used.

Note that this method does *not* call <u>deleteOnExit()</u> (/reference /java/io/File.html#deleteOnExit()), but see the documentation for that method before you call it manually.

Parameters

prefix the prefix to the temp file name.suffix the suffix to the temp file name.

directory the location to which the temp file is to be written,

or null for the default location for temporary files, which is taken from the "java.io.tmpdir" system property. It may be necessary to set this property to an existing, writable directory for this method to

work properly.

Returns

the temporary file.

Throws

<u>IllegalArgumentException</u> if the length of prefix is less

than 3.

IOException if an error occurs when writing the

file.

public static <u>File</u> **createTempFile** (<u>String</u> prefix, <u>String</u> suffix)

Added in API level 1

Creates an empty temporary file using the given prefix and suffix as part of the file name. If suffix is null, .tmp is used. This method is a convenience method that calls createTempFile(String)

String, File) (/reference/java/io

/File.html#createTempFile(java.lang.String, java.lang.String, java.io.File)) with the third argument being null.

Parameters

prefix the prefix to the temp file name.

suffix the suffix to the temp file name.

Returns

the temporary file.

Throws

<u>IOException</u> if an error occurs when writing the file.

public boolean delete ()

Added in API level 1

Deletes this file. Directories must be empty before they will be deleted.

Note that this method does *not* throw IOException on failure. Callers must check the return value.

Returns

true if this file was deleted, false otherwise.

public void deleteOnExit ()

Added in API level 1

Schedules this file to be automatically deleted when the VM terminates normally.

Note that on Android, the application lifecycle does not include VM termination, so calling this method will not ensure that files are deleted. Instead, you should use the most appropriate out of:

- Use a finally clause to manually invoke <u>delete()</u>.
- Maintain your own set of files to delete, and process it at an appropriate point in your application's lifecycle.
- Use the Unix trick of deleting the file as soon as all readers and writers have opened it. No new readers/writers will be able to access the file, but all existing ones will still have access until the last one closes the file.

public boolean **equals** (Object obj)

Added in API level 1

Compares obj to this file and returns true if they represent the *same* object using a path specific comparison.

Parameters

obj the object to compare this file with.

Returns

true if obj is the same as this object, false otherwise.

public boolean exists ()

Added in API level 1

Returns a boolean indicating whether this file can be found on the underlying file system.

Returns

true if this file exists, false otherwise.

public File getAbsoluteFile ()

Added in API level 1

Returns a new file constructed using the absolute path of this file. Equivalent to new File(this.getAbsolutePath()).

public <u>String</u> **getAbsolutePath** ()

Added in API level 1

Returns the absolute path of this file. An absolute path is a path that starts at a root of the file system. On Android, there is only one root: /.

A common use for absolute paths is when passing paths to a Process as command-line arguments, to remove the requirement implied by relative paths, that the child must have the same working directory as its parent.

public File getCanonicalFile ()

Added in API level 1

Returns a new file created using the canonical path of this file. Equivalent to new File(this.getCanonicalPath()).

Returns

the new file constructed from this file's canonical path.

Throws

IOException if an I/O error occurs.

public String getCanonicalPath ()

Added in <u>API level 1</u>

Returns the canonical path of this file. An *absolute* path is one that begins at the root of the file system. A *canonical* path is an absolute path with symbolic links and references to "." or ".." resolved. If a path element does not exist (or is not searchable), there is a conflict

between interpreting canonicalization as a textual operation (where "a/../b" is "b" even if "a" does not exist).

Most callers should use getAbsolutePath() (/reference/java/io /File.html#getAbsolutePath()) instead. A canonical path is significantly more expensive to compute, and not generally useful. The primary use for canonical paths is determining whether two paths point to the same file by comparing the canonicalized paths.

It can be actively harmful to use a canonical path, specifically because canonicalization removes symbolic links. It's wise to assume that a symbolic link is present for a reason, and that that reason is because the link may need to change. Canonicalization removes this layer of indirection. Good code should generally avoid caching canonical paths.

Returns

the canonical path of this file.

Throws

IOException if an I/O error occurs.

public long getFreeSpace ()

Added in API level 9

Returns the number of free bytes on the partition containing this path. Returns 0 if this path does not exist.

Note that this is likely to be an optimistic over-estimate and should not be taken as a guarantee your application can actually write this many bytes.

public <u>String</u> getName ()

Added in API level 1

Returns the name of the file or directory represented by this file.

Returns

this file's name or an empty string if there is no name part in the file's path.

public String getParent ()

Added in <u>API level 1</u>

Returns the pathname of the parent of this file. This is the path up to but not including the last name. null is returned if there is no parent.

Returns

this file's parent pathname or null.

public File getParentFile ()

Added in API level 1

Returns a new file made from the pathname of the parent of this file. This is the path up to but not including the last name. null is returned when there is no parent.

Returns

a new file representing this file's parent or null.

public String getPath ()

Added in API level 1

Returns the path of this file.

public long getTotalSpace ()

Added in API level 9

Returns the total size in bytes of the partition containing this path. Returns 0 if this path does not exist.

public long getUsableSpace ()

Added in API level 9

Returns the number of usable free bytes on the partition containing this path. Returns 0 if this path does not exist.

Note that this is likely to be an optimistic over-estimate and should not be taken as a guarantee your application can actually write this many bytes. On Android (and other Unix-based systems), this method returns the number of free bytes available to non-root users, regardless of whether you're actually running as root, and regardless of any quota or other restrictions that might apply to the user. (The getFreeSpace method returns the number of bytes potentially available to root.)

public int hashCode ()

Added in API level 1

Returns an integer hash code for the receiver. Any two objects for which equals returns true must return the same hash code.

Returns

this files's hash value.

See Also

equals(Object)

public boolean isAbsolute ()

Added in API level 1

Indicates if this file's pathname is absolute. Whether a pathname is absolute is platform specific. On Android, absolute paths start with the character '/'.

Returns

true if this file's pathname is absolute, false otherwise.

See Also

getPath()

public boolean isDirectory ()

Added in API level 1

Indicates if this file represents a *directory* on the underlying file system.

Returns

true if this file is a directory, false otherwise.

public boolean isFile ()

Added in API level 1

Indicates if this file represents a file on the underlying file system.

Returns

true if this file is a file, false otherwise.

public boolean isHidden ()

Added in API level 1

Returns whether or not this file is a hidden file as defined by the operating system. The notion of "hidden" is system-dependent. For Unix systems a file is considered hidden if its name starts with a ".". For Windows systems there is an explicit flag in the file system for this purpose.

Returns

true if the file is hidden, false otherwise.

public long lastModified ()

Added in API level 1

Returns the time when this file was last modified, measured in milliseconds since January 1st, 1970, midnight. Returns 0 if the file does not exist.

Returns

the time when this file was last modified.

public long length ()

Added in API level 1

Returns the length of this file in bytes. Returns 0 if the file does not exist. The result for a directory is not defined.

Returns

the number of bytes in this file.

public String[] list ()

Added in API level 1

Returns an array of strings with the file names in the directory represented by this file. The result is null if this file is not a directory.

The entries . and . . representing the current and parent directory are not returned as part of the list.

Returns

an array of strings with file names or null.

public <u>String[] list (FilenameFilter filter)</u>

Added in API level 1

Gets a list of the files in the directory represented by this file. This list is then filtered through a FilenameFilter and the names of files with matching names are returned as an array of strings. Returns null if this file is not a directory. If filter is null then all filenames match.

The entries . and . . representing the current and parent directories are not returned as part of the list.

Parameters

filter the filter to match names against, may be null.

Returns

an array of files or null.

public File[] listFiles ()

Added in API level 1

Returns an array of files contained in the directory represented by this file. The result is null if this file is not a directory. The paths of the files in the array are absolute if the path of this file is absolute, they are relative otherwise.

Returns

an array of files or null.

public File listFiles (FilenameFilter filter)

Added in API level 1

Gets a list of the files in the directory represented by this file. This list is then filtered through a FilenameFilter and files with matching names are returned as an array of files. Returns null if this file is not a directory. If filter is null then all filenames match.

The entries . and . . representing the current and parent directories are not returned as part of the list.

Parameters

filter the filter to match names against, may be null.

Returns

an array of files or null.

public File[] listFiles (FileFilter filter)

Added in API level 1

Gets a list of the files in the directory represented by this file. This list is then filtered through a FileFilter and matching files are returned as an array of files. Returns null if this file is not a directory. If filter is null then all files match.

The entries . and . . representing the current and parent directories are not returned as part of the list.

Parameters

filter the filter to match names against, may be null.

Returns

an array of files or null.

public static File[] listRoots ()

Added in API level 1

Returns the file system roots. On Android and other Unix systems, there is a single root, /.

public boolean mkdir ()

Added in API level 1

Creates the directory named by this file, assuming its parents exist. Use mkdirs() (/reference/java/io/File.html#mkdirs()) if you also want to create missing parents.

Note that this method does *not* throw IOException on failure. Callers must check the return value. Note also that this method returns false if the directory already existed. If you want to know whether the directory exists on return, either use (f.mkdir() || f.isDirectory()) or simply ignore the return value from this method and simply call <u>isDirectory()</u> (/reference/java/io/File.html#isDirectory()).

Returns

true if the directory was created, false on failure or if the directory already existed.

public boolean **mkdirs** ()

Added in API level 1

Creates the directory named by this file, creating missing parent directories if necessary. Use mkdir() (/reference/java/io /File.html#mkdir()) if you don't want to create missing parents.

Note that this method does *not* throw IOException on failure. Callers must check the return value. Note also that this method returns false if the directory already existed. If you want to know whether the directory exists on return, either use (f.mkdirs() || f.isDirectory()) or simply ignore the return value from this method and simply call <u>isDirectory()</u> (/reference/java/io/File.html#isDirectory()).

Returns

true if the directory was created, false on failure or if the directory already existed.

public boolean **renameTo** (<u>File</u> newPath)

Added in API level 1

Renames this file to newPath. This operation is supported for both files and directories.

Many failures are possible. Some of the more likely failures include:

- Write permission is required on the directories containing both the source and destination paths.
- Search permission is required for all parents of both paths.
- Both paths be on the same mount point. On Android, applications are most likely to hit this restriction when attempting to copy between internal storage and an SD card.

Note that this method does *not* throw IOException on failure. Callers must check the return value.

Parameters

newPath the new path.

Returns

true on success.

public boolean setExecutable (boolean executable) Added in API level 9

Equivalent to setExecutable(executable, true).

See Also

setExecutable(boolean, boolean)

public boolean **setExecutable** (boolean executable, boolean ownerOnly) Added in API level 9

Manipulates the execute permissions for the abstract path designated by this file.

Note that this method does *not* throw IOException on failure. Callers must check the return value.

Parameters

executable To allow execute permission if true, otherwise

disallow

ownerOnly To manipulate execute permission only for

owner if true, otherwise for everyone. The

manipulation will apply to everyone regardless of this value if the underlying system does not

distinguish owner and other users.

Returns

true if and only if the operation succeeded. If the user does not have permission to change the access permissions of this abstract pathname the operation will fail. If the underlying file system does not support execute permission and the value of executable is false, this operation will fail.

public boolean setLastModified (long time)

Added in API level 1

Sets the time this file was last modified, measured in milliseconds since January 1st, 1970, midnight.

Note that this method does *not* throw IOException on failure. Callers must check the return value.

Parameters

time the last modification time for this file.

Returns

true if the operation is successful, false otherwise.

Throws

IllegalArgumentException if time < 0.</pre>

public boolean setReadOnly ()

Added in API level 1

Equivalent to setWritable(false, false).

See Also

setWritable(boolean, boolean)

public boolean **setReadable** (boolean readable) Added in API level 9

Equivalent to setReadable(readable, true).

See Also

setReadable(boolean, boolean)

public boolean **setReadable** (boolean readable, boolean ownerOnly)

Added in API level 9

Manipulates the read permissions for the abstract path designated by this file.

Parameters

readable To allow read permission if true, otherwise

disallow

ownerOnly To manipulate read permission only for owner if

true, otherwise for everyone. The manipulation will apply to everyone regardless of this value if the underlying system does not distinguish

owner and other users.

Returns

true if and only if the operation succeeded. If the user does not have permission to change the access permissions of this abstract pathname the operation will fail. If the underlying file system does not support read permission and the value of readable is false, this operation will fail.

public boolean **setWritable** (boolean writable, boolean ownerOnly)

Added in API level 9

Manipulates the write permissions for the abstract path designated by this file.

Parameters

writable To allow write permission if true, otherwise

disallow

ownerOnly To manipulate write permission only for owner if

true, otherwise for everyone. The manipulation will apply to everyone regardless of this value if the underlying system does not distinguish

owner and other users.

Returns

true if and only if the operation succeeded. If the user does not have permission to change the access permissions of this

abstract pathname the operation will fail.

public boolean **setWritable** (boolean writable) Added in API level 9

Equivalent to setWritable(writable, true).

See Also

setWritable(boolean, boolean)

public String toString ()

Added in API level 1

Returns a string containing a concise, human-readable description of this file.

Returns

a printable representation of this file.

public <u>URI</u> toURI ()

Added in API level 1

Returns a Uniform Resource Identifier for this file. The URI is system dependent and may not be transferable between different operating / file systems.

Returns

an URI for this file.

public URL toURL ()

Added in API level 1

This method was deprecated in API level 9.

Use <u>toURI()</u> (/reference/java/io/File.html#toURI()) and <u>toURL()</u> (/reference/java/net/URI.html#toURL()) to correctly escape illegal characters.

Returns a Uniform Resource Locator for this file. The URL is system dependent and may not be transferable between different operating / file systems.

Returns

a URL for this file.

Throws

<u>MalformedURLException</u> if the path cannot be transformed into a URL.

20 of 20 02/14/2014 02:09 PM