| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/URLStreamHandler.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/java/net/URLEncoder.html)   [**NEXT CLASS**](http://docs.google.com/java/net/URLStreamHandlerFactory.html) | [**FRAMES**](http://docs.google.com/index.html?java/net/URLStreamHandler.html)    [**NO FRAMES**](http://docs.google.com/URLStreamHandler.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## **java.net**

Class URLStreamHandler

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.net.URLStreamHandler**

public abstract class **URLStreamHandler**extends [Object](http://docs.google.com/java/lang/Object.html)

The abstract class URLStreamHandler is the common superclass for all stream protocol handlers. A stream protocol handler knows how to make a connection for a particular protocol type, such as http, ftp, or gopher.

In most cases, an instance of a URLStreamHandler subclass is not created directly by an application. Rather, the first time a protocol name is encountered when constructing a URL, the appropriate stream protocol handler is automatically loaded.

**Since:** JDK1.0 **See Also:**[URL.URL(java.lang.String, java.lang.String, int, java.lang.String)](http://docs.google.com/java/net/URL.html#URL(java.lang.String,%20java.lang.String,%20int,%20java.lang.String))

| **Constructor Summary** | |
| --- | --- |
| [**URLStreamHandler**](http://docs.google.com/java/net/URLStreamHandler.html#URLStreamHandler())() |

| **Method Summary** | |
| --- | --- |
| protected  boolean | [**equals**](http://docs.google.com/java/net/URLStreamHandler.html#equals(java.net.URL,%20java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u1, [URL](http://docs.google.com/java/net/URL.html) u2)            Provides the default equals calculation. |
| protected  int | [**getDefaultPort**](http://docs.google.com/java/net/URLStreamHandler.html#getDefaultPort())()            Returns the default port for a URL parsed by this handler. |
| protected  [InetAddress](http://docs.google.com/java/net/InetAddress.html) | [**getHostAddress**](http://docs.google.com/java/net/URLStreamHandler.html#getHostAddress(java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u)            Get the IP address of our host. |
| protected  int | [**hashCode**](http://docs.google.com/java/net/URLStreamHandler.html#hashCode(java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u)            Provides the default hash calculation. |
| protected  boolean | [**hostsEqual**](http://docs.google.com/java/net/URLStreamHandler.html#hostsEqual(java.net.URL,%20java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u1, [URL](http://docs.google.com/java/net/URL.html) u2)            Compares the host components of two URLs. |
| protected abstract  [URLConnection](http://docs.google.com/java/net/URLConnection.html) | [**openConnection**](http://docs.google.com/java/net/URLStreamHandler.html#openConnection(java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u)            Opens a connection to the object referenced by the URL argument. |
| protected  [URLConnection](http://docs.google.com/java/net/URLConnection.html) | [**openConnection**](http://docs.google.com/java/net/URLStreamHandler.html#openConnection(java.net.URL,%20java.net.Proxy))([URL](http://docs.google.com/java/net/URL.html) u, [Proxy](http://docs.google.com/java/net/Proxy.html) p)            Same as openConnection(URL), except that the connection will be made through the specified proxy; Protocol handlers that do not support proxying will ignore the proxy parameter and make a normal connection. |
| protected  void | [**parseURL**](http://docs.google.com/java/net/URLStreamHandler.html#parseURL(java.net.URL,%20java.lang.String,%20int,%20int))([URL](http://docs.google.com/java/net/URL.html) u, [String](http://docs.google.com/java/lang/String.html) spec, int start, int limit)            Parses the string representation of a URL into a URL object. |
| protected  boolean | [**sameFile**](http://docs.google.com/java/net/URLStreamHandler.html#sameFile(java.net.URL,%20java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u1, [URL](http://docs.google.com/java/net/URL.html) u2)            Compare two urls to see whether they refer to the same file, i.e., having the same protocol, host, port, and path. |
| protected  void | [**setURL**](http://docs.google.com/java/net/URLStreamHandler.html#setURL(java.net.URL,%20java.lang.String,%20java.lang.String,%20int,%20java.lang.String,%20java.lang.String))([URL](http://docs.google.com/java/net/URL.html) u, [String](http://docs.google.com/java/lang/String.html) protocol, [String](http://docs.google.com/java/lang/String.html) host, int port, [String](http://docs.google.com/java/lang/String.html) file, [String](http://docs.google.com/java/lang/String.html) ref)  **Deprecated.** *Use setURL(URL, String, String, int, String, String, String, String);* |
| protected  void | [**setURL**](http://docs.google.com/java/net/URLStreamHandler.html#setURL(java.net.URL,%20java.lang.String,%20java.lang.String,%20int,%20java.lang.String,%20java.lang.String,%20java.lang.String,%20java.lang.String,%20java.lang.String))([URL](http://docs.google.com/java/net/URL.html) u, [String](http://docs.google.com/java/lang/String.html) protocol, [String](http://docs.google.com/java/lang/String.html) host, int port, [String](http://docs.google.com/java/lang/String.html) authority, [String](http://docs.google.com/java/lang/String.html) userInfo, [String](http://docs.google.com/java/lang/String.html) path, [String](http://docs.google.com/java/lang/String.html) query, [String](http://docs.google.com/java/lang/String.html) ref)            Sets the fields of the URL argument to the indicated values. |
| protected  [String](http://docs.google.com/java/lang/String.html) | [**toExternalForm**](http://docs.google.com/java/net/URLStreamHandler.html#toExternalForm(java.net.URL))([URL](http://docs.google.com/java/net/URL.html) u)            Converts a URL of a specific protocol to a String. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### URLStreamHandler

public **URLStreamHandler**()

| **Method Detail** |
| --- |

### openConnection

protected abstract [URLConnection](http://docs.google.com/java/net/URLConnection.html) **openConnection**([URL](http://docs.google.com/java/net/URL.html) u)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Opens a connection to the object referenced by the URL argument. This method should be overridden by a subclass.

If for the handler's protocol (such as HTTP or JAR), there exists a public, specialized URLConnection subclass belonging to one of the following packages or one of their subpackages: java.lang, java.io, java.util, java.net, the connection returned will be of that subclass. For example, for HTTP an HttpURLConnection will be returned, and for JAR a JarURLConnection will be returned.

**Parameters:**u - the URL that this connects to. **Returns:**a URLConnection object for the URL. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs while opening the connection.

### openConnection

protected [URLConnection](http://docs.google.com/java/net/URLConnection.html) **openConnection**([URL](http://docs.google.com/java/net/URL.html) u,  
 [Proxy](http://docs.google.com/java/net/Proxy.html) p)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Same as openConnection(URL), except that the connection will be made through the specified proxy; Protocol handlers that do not support proxying will ignore the proxy parameter and make a normal connection. Calling this method preempts the system's default ProxySelector settings.

**Parameters:**u - the URL that this connects to.p - the proxy through which the connection will be made. If direct connection is desired, Proxy.NO\_PROXY should be specified. **Returns:**a URLConnection object for the URL. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs while opening the connection. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if either u or p is null, or p has the wrong type. [UnsupportedOperationException](http://docs.google.com/java/lang/UnsupportedOperationException.html) - if the subclass that implements the protocol doesn't support this method.**Since:** 1.5

### parseURL

protected void **parseURL**([URL](http://docs.google.com/java/net/URL.html) u,  
 [String](http://docs.google.com/java/lang/String.html) spec,  
 int start,  
 int limit)

Parses the string representation of a URL into a URL object.

If there is any inherited context, then it has already been copied into the URL argument.

The parseURL method of URLStreamHandler parses the string representation as if it were an http specification. Most URL protocol families have a similar parsing. A stream protocol handler for a protocol that has a different syntax must override this routine.

**Parameters:**u - the URL to receive the result of parsing the spec.spec - the String representing the URL that must be parsed.start - the character index at which to begin parsing. This is just past the ':' (if there is one) that specifies the determination of the protocol name.limit - the character position to stop parsing at. This is the end of the string or the position of the "#" character, if present. All information after the sharp sign indicates an anchor.

### getDefaultPort

protected int **getDefaultPort**()

Returns the default port for a URL parsed by this handler. This method is meant to be overidden by handlers with default port numbers.

**Returns:**the default port for a URL parsed by this handler.**Since:** 1.3

### equals

protected boolean **equals**([URL](http://docs.google.com/java/net/URL.html) u1,  
 [URL](http://docs.google.com/java/net/URL.html) u2)

Provides the default equals calculation. May be overidden by handlers for other protocols that have different requirements for equals(). This method requires that none of its arguments is null. This is guaranteed by the fact that it is only called by java.net.URL class.

**Parameters:**u1 - a URL objectu2 - a URL object **Returns:**true if the two urls are considered equal, ie. they refer to the same fragment in the same file.**Since:** 1.3

### hashCode

protected int **hashCode**([URL](http://docs.google.com/java/net/URL.html) u)

Provides the default hash calculation. May be overidden by handlers for other protocols that have different requirements for hashCode calculation.

**Parameters:**u - a URL object **Returns:**an int suitable for hash table indexing**Since:** 1.3

### sameFile

protected boolean **sameFile**([URL](http://docs.google.com/java/net/URL.html) u1,  
 [URL](http://docs.google.com/java/net/URL.html) u2)

Compare two urls to see whether they refer to the same file, i.e., having the same protocol, host, port, and path. This method requires that none of its arguments is null. This is guaranteed by the fact that it is only called indirectly by java.net.URL class.

**Parameters:**u1 - a URL objectu2 - a URL object **Returns:**true if u1 and u2 refer to the same file**Since:** 1.3

### getHostAddress

protected [InetAddress](http://docs.google.com/java/net/InetAddress.html) **getHostAddress**([URL](http://docs.google.com/java/net/URL.html) u)

Get the IP address of our host. An empty host field or a DNS failure will result in a null return.

**Parameters:**u - a URL object **Returns:**an InetAddress representing the host IP address.**Since:** 1.3

### hostsEqual

protected boolean **hostsEqual**([URL](http://docs.google.com/java/net/URL.html) u1,  
 [URL](http://docs.google.com/java/net/URL.html) u2)

Compares the host components of two URLs.

**Parameters:**u1 - the URL of the first host to compareu2 - the URL of the second host to compare **Returns:**true if and only if they are equal, false otherwise.**Since:** 1.3

### toExternalForm

protected [String](http://docs.google.com/java/lang/String.html) **toExternalForm**([URL](http://docs.google.com/java/net/URL.html) u)

Converts a URL of a specific protocol to a String.

**Parameters:**u - the URL. **Returns:**a string representation of the URL argument.

### setURL

protected void **setURL**([URL](http://docs.google.com/java/net/URL.html) u,  
 [String](http://docs.google.com/java/lang/String.html) protocol,  
 [String](http://docs.google.com/java/lang/String.html) host,  
 int port,  
 [String](http://docs.google.com/java/lang/String.html) authority,  
 [String](http://docs.google.com/java/lang/String.html) userInfo,  
 [String](http://docs.google.com/java/lang/String.html) path,  
 [String](http://docs.google.com/java/lang/String.html) query,  
 [String](http://docs.google.com/java/lang/String.html) ref)

Sets the fields of the URL argument to the indicated values. Only classes derived from URLStreamHandler are supposed to be able to call the set method on a URL.

**Parameters:**u - the URL to modify.protocol - the protocol name.host - the remote host value for the URL.port - the port on the remote machine.authority - the authority part for the URL.userInfo - the userInfo part of the URL.path - the path component of the URL.query - the query part for the URL.ref - the reference. **Throws:** [SecurityException](http://docs.google.com/java/lang/SecurityException.html) - if the protocol handler of the URL is different from this one**Since:** 1.3 **See Also:**[URL.set(java.lang.String, java.lang.String, int, java.lang.String, java.lang.String)](http://docs.google.com/java/net/URL.html#set(java.lang.String,%20java.lang.String,%20int,%20java.lang.String,%20java.lang.String))

### setURL

[@Deprecated](http://docs.google.com/java/lang/Deprecated.html)  
protected void **setURL**([URL](http://docs.google.com/java/net/URL.html) u,  
 [String](http://docs.google.com/java/lang/String.html) protocol,  
 [String](http://docs.google.com/java/lang/String.html) host,  
 int port,  
 [String](http://docs.google.com/java/lang/String.html) file,  
 [String](http://docs.google.com/java/lang/String.html) ref)

**Deprecated.** *Use setURL(URL, String, String, int, String, String, String, String);*

Sets the fields of the URL argument to the indicated values. Only classes derived from URLStreamHandler are supposed to be able to call the set method on a URL.

**Parameters:**u - the URL to modify.protocol - the protocol name. This value is ignored since 1.2.host - the remote host value for the URL.port - the port on the remote machine.file - the file.ref - the reference. **Throws:** [SecurityException](http://docs.google.com/java/lang/SecurityException.html) - if the protocol handler of the URL is different from this one

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/URLStreamHandler.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/java/net/URLEncoder.html)   [**NEXT CLASS**](http://docs.google.com/java/net/URLStreamHandlerFactory.html) | [**FRAMES**](http://docs.google.com/index.html?java/net/URLStreamHandler.html)    [**NO FRAMES**](http://docs.google.com/URLStreamHandler.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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